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ORIGINAL LECTURES.

DIPHTHERIA.

A Lecture delivered by Invitation at the Bellevue Hospital Medical College, New York, Oct. 12, 1882.

BY MORELL MACKENZIE, M.D. LOND., M.R.C.P.

SENIOR PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST AND THROAT, LECTURER ON DISEASES OF THE THROAT AT THE LONDON HOSPITAL MEDICAL COLLEGE, ETC.

GENTLEMEN: When I found that Dr. Bosworth had been kind enough to invite me to lecture to you, I need not say I felt very grateful to him, but I hesitated to accept the great honor, on the ground, first of all, because I object to all lectures; and, secondly, on account of the vastness and difficulty of the subject he had chosen for me to speak upon.

I think the days for teaching by means of lectures are passed. Lectures did very well in the middle ages, when medical books were more scarce than they are now, and perhaps are still very good for clinical purposes. They may also be useful where it is desired to show the use of instruments, or demonstrate special modes of investigation, as, for instance, in experimental physiology. One reason why they are still so largely in vogue is on account of lecturing being a traditional mode of teaching. Then, too, it is supposed to be a means of reaching that class of students who will not read or study from books, but I believe that class does not exist in America, for my observations have led me to the conclusion that American medical students are industrious and never shirk hard work. Therefore, I feel that the days for didactic lecturing in this country are altogether ended.

The subject chosen for me to speak upon was not selected by myself, and I feel that it is impossible to do anything like justice to it in a comparatively few minutes. However, I will not take up your time with any further excuses, but will proceed at once to make running commentaries upon the disease in question.

I will not trouble you with an historical account of diphtheria, beginning with Hippocrates and running down to the present time, as is so customary for medical authors when treating of various diseases. The ancient medical writers had such a convenient vagueness of expression that now when an author is writing upon a given disease, even though it be one so recently recognized as pernicious anæmia, he has only to consult Hippocrates to find a description which he can easily apply to it as proof of the disease having existed from the earliest times. I will simply tell you, and that, perhaps, will be of interest to you, that Dr. Samuel Bard, an American physician, was the first to write an accurate and comprehensive description of diphtheria. Previous to this, as some of you may know, a very accurate description of croup was written by Dr. Hume and several other English writers, but all these took a local view of the disease. They did not understand the nature and various manifestations of the disease. It was Dr. Samuel Bard who first accurately described it and pointed out that what were supposed to be different diseases were in part only different manifestations of one affection, diphtheria.

Nor will I endeavor to give you a minute definition of the disease, for it is very difficult to give a good definition of anything. If you attempt to define life, man, etc., nothing is more difficult, and the same is true of diphtheria. If you try to give a concise definition, you are sure to omit something of importance. I myself tried to give a comprehensive definition of diphtheria in a book which I wrote a few years since, and thought I had succeeded pretty well. But my reviewers said it was a description, not a definition. Since then I have made no further attempt in this direction.

The disease in question is sometimes considered to be a specific inflammatory condition of the mucous membrane of the throat; being produced by a definite cause. It generally occurs epidemically, though sometimes endemically. It is characterized by the formation in the throat of a false membrane. These are its main features. Now we have to consider what is the specific nature of the disease. Is it the result of certain germs or not? One of your most distinguished American physicians, Dr. Jacobi, does not believe in the germ theory of diphtheria; at least that was his belief two years ago when he wrote upon this subject. You are well aware that certain minute bodies called micrococci are found in the membrane of diphtheria. These are supposed by some to be the cause of diphtheria, while others believe there is nothing specific about them as they are found under other conditions.

When I wrote my book three or four years ago I was rather guarded on this point. I said there was a good deal to be said on both sides of this question; that if these germs did not cause the disease, they had a good deal to do with it. And I consider the question is not yet settled as to whether or not bacteria are the cause of the disease. You are probably aware of the recent experiments of Dr. Wood, of Philadelphia, which have shown that bacteria are exceedingly abundant in the false membrane of the severer forms of diphtheria; that, in fact, their number is in direct proportion to the virulence of the disease; and that they are present in all cases. He demonstrated that these germs actually attacked the white corpuscles of the blood, thus killing the blood, as it were, at its very fountain head. My opinion is, that these bacteria have a most important connection with the disease. Dr. Wood says also that bacteria are present in almost every inflammation of the throat. But the important point which he has drawn attention to is that they are found in numbers corresponding to the severity of the attack. He showed also that their contact with healthy mucous membrane reproduced the disease. When the bacteria became dried up and were no longer active, they were not capable of reproducing the disease. But it may be argued in good faith that the drying process also destroys the specific poison of the disease as well as the bacteria. Therefore I say we are still where we were four years ago; the subject is still *sub judice*. It is of all things, important that you should not lose sight of this question, because, if germs have nothing to do with the disease, you might be led to think it is less infectious than it really is.

This brings us to the point, whether croup is really a separate disease. Now, I hold that croup and diphtheria are quite identical, and that it will not be long before we shall have exhaustive works upon diphtheria which will consider it and croup as identical diseases. One reason why there is so much confusion about this matter, is that the meaning of the word croup is vague, it having been applied to a variety of conditions. There is what is called diphtheritic croup, catarrhal croup, and nervous croup. I think a term that can be

applied so loosely is a very unsatisfactory one to use in medicine. I consider croup with membrane in the throat to be the same as diphtheria. Then there is, as I have just said, catarrhal croup and laryngismus stridulus or nervous croup. I would strongly recommend to give up the term croup altogether, for it is used so vaguely that it only confuses. I believe though, after all, it is merely a theoretical question, and will not materially affect our practice, for we do not treat disease according to names. We look at a patient and observe the character of the attack from which he is suffering, determine the conditions of the pulse, and if he be strong or feeble. We do not treat the patient according to whether the disease is called by this or that name, but according to the indications present in his particular case. The discussion as to the identity or non-identity of croup and diphtheria reminds one of that which was seriously discussed many ages ago, viz. as to how many angels could sit together on the point of a needle, and is perhaps, after all, of little more importance.

We now pass on to that which is of much greater importance, the prognosis. I shall leave out altogether the symptoms and pathology of the disease, for if I were to go into a description of the various forms of diphtheria, it would consume three or four hours. All these matters are thoroughly considered in the text-books. I want to urge upon you not to be guided in your prognosis by statistics. You must consider your patient quite independently of all statistics. The figures published by some authors indicate that half of the patients die, while those of another may indicate that more than half recover. According to our present systems of gathering statistics we can only accurately determine the number of fatal cases, for we have no means of knowing whether all those that are reported as having recovered were really cases of diphtheria. I have known of some gentlemen to have reported treating two hundred cases of diphtheria without a death. But I have always thought that all of these could not have been cases of true diphtheria, or else the physician was exceedingly fortunate in having a large number of very mild cases. When the disease is accompanied by a thick membrane in the throat, especially in the larynx, it is very fatal. Therefore let your prognosis be most guarded.

A point I wish to speak of is, a high temperature early in the disease. This, I believe, to be indicative of a serious case. In diphtheria the temperature is usually not much elevated, but in the severer cases, it is often excessively high from the beginning, and is accompanied with great depression. The case is likely to prove very serious if there is sickness at the stomach, and especially if there be vomiting.

As some of you may know, I consider the disease to originate from germs; that it is from the commencement a local disease. I am in fact of the same faith, regarding this matter as your townsman Dr. Elsberg, who more than ten years ago pointed out the fact that the disease was in almost all cases primarily local. Sometimes the severity of the attack may from the beginning be so great, that the disease will appear to be constitutional from the commencement.

These cases I believe are analogous to those of scarlet fever, where the patient is stricken down from the very moment of onset of the disease. These points bear upon the prognosis.

Now we pass to the treatment, which is perhaps even more important than the prognosis. Here you will find the remedies recommended very numerous, and in many instances directly antagonistic. I remember to have read the report of sixty cases of diphtheria, in which it was stated that all the patients were bled, and all recovered. Such reports show the possibility of making mistakes in diagnosis, and the possibility of finding people who can stand depletion in an extraordinary manner.

We have first to consider the constitutional, and then the local treatment. The constitutional treatment is not less important than the local. Diphtheria is the disease *par excellence* in which stimulants are most important from the beginning. I am an advocate of moderation in the use of stimulants, both in health and disease, but in diphtheria we have an exception. I would advise you to give brandy diluted with water, or port wine and water, from the beginning of the attack. Do not wait for your patients to become exhausted, but stimulate them from the first. When they are beginning to recover, light wines are particularly useful. You must give stimulants not only during the day, but during the night in a large number of cases. I have seen many cases where I believe patients have died because stimulants were not administered during the night. Frequently it is advisable to wake patients to give them stimulants, if they sleep more than four hours. It is important not to let your patient get depressed, and to give stimulants from the first.

I will now pass from the use of stimulants to the use of medicines. Of these the most useful, I believe, is the perchloride of iron. Dr. Jacobi has found this remedy more useful than any other. For general constitutional purposes there is no better remedy. It should be given in full doses. We generally give the tincture or a solution of the perchloride of iron. It is important to give a per-salt. As Dr. Jacobi says, you should give at least a drachm a day; fifteen drops well diluted with water, four times a day. The only times I have not given it is where I have been trying the effects of local remedies, and did not wish to have the results affected by constitutional remedies.

Quinia is of great value in cases having high temperature. These two drugs, perhaps, may be considered the most important constitutional remedies.

All sorts of specifics have been recommended. I have not had any particular success with these remedies. Chlorate of potash is probably the most important. I wish to call particular attention to a remedy introduced by one of your professors, Dr. Beverly Robinson; I refer to cubebs and copabia. These drugs, as many of you may know, have a peculiar influence upon mucous membranes. I have made use of the French pearls coated with sugar, which are readily taken by children, and have had very gratifying success. I have used them principally in the catarrhal form of diphtheria, where the secretion is not very adhesive, and where there is a good deal of catarrh in connection with the false membrane. When there is an epidemic of diphtheria you get a large number of catarrhal cases and in these you will find the pearls to work well.

We pass from the general to the local remedies. Here we have a very wide field. A great many doctors go through life and see very few cases of diphtheria. Some doctors meet with only mild cases, others with severe. Some physicians will tell you they have never lost a case, and will recommend some such simple remedy as chlorate of potash. These statements you should regard with suspicion. Of simple local remedies, lime water and lactic acid are probably the best. One thing in their favor is that they can do no harm. It is a good thing in applying remedies, to have those which can do no harm, even if they do no good. These are much better than strong hydrochloric acid or nitrate of silver, drugs which were formerly used. Strong caustics, we now know, cause an extension of the disease, or an increase in the formation of false membrane, as it is called. Therefore, when we were told by the German physicians that lactic acid and lime water

were efficient remedies in diphtheria, it was very acceptable news. I should state also that solutions of potash have been found very useful. These solutions have a marked effect upon the false membrane. They will gradually dissolve it, as you can demonstrate to yourself by placing some false membrane in a glass of water with the potash. In the living subject, however, where there is a constant reproduction of false membrane, it is a different thing. I have found when I used locally a solution of potash strong enough to dissolve the false membrane, it had an irritating effect. With regard to lactic acid and lime water the result is somewhat different. They do not appear to affect false membrane placed in a tube of water, but in the living subject they certainly do have a dissolving effect upon the false membrane.

It is always difficult to determine the exact effect of any local application upon the false membrane in the throat, on account of the difficulties attending inspection, especially in young subjects, among whom the disease usually occurs. I once had the opportunity, however, of trying those remedies where I could observe their effect. The membrane was situated upon the inside of the lip. I treated one side with lime water, while no applications were made to the other. The side treated got well fastest. I mentioned this detail in passing as opposed to Dr. Jacobi's idea that the influence of these remedies has been over-estimated.

We pass on to another class of remedies, namely, those which have the effect of shutting out the air. These have been used considerably in England but not much, so far as I am aware, in America. I tried some experiments a few years ago of dissolving different gums in ether, chloroform, and alcohol, and I found as a result of a considerable number of trials, that tolu in ether, in the proportion of one part of the former to five parts of the latter, made a good varnish, one that was strong and would not crack, and furthermore, was not irritating when applied to mucous membranes.

Many of these local remedies have been recommended on the ground that they destroy germs. I omitted to mention carbolic acid and salicylic acid as among the most useful of local remedies. Carbolic acid is a very great germ destroyer. All of this class of remedies have been recommended upon the scientific ground that they destroy germs.

Now the principle which I introduced was this: no matter whether it is an animal germ, or vegetable growth, or something else that causes this false membrane to be formed, whatever it may be, it requires the presence of air in order to develop. By excluding the air, we arrest its growth. Hence when I have a patient with diphtheria, I exclude the air from the surface of the affected mucous membrane by the application of tolu varnish. This varnish is in fact a germ destroyer, for germs can not grow without air.

Some of my friends have found difficulty in applying the varnish. The first method of application which I adopted was to wipe the surface dry with a piece of blotting paper, and immediately afterward apply the varnish with a camel's-hair brush. This answers very well when you can do it, but very often the patient retches a little just after you have wiped the surface dry, and again covers it with mucus. To avoid such an accident, I adopted the plan of winding a piece of lint around my finger, wiping the surface dry with this, and then applying the resin. This I have found to answer perfectly well. Even if you do experience some difficulty in the application of the varnish, I advise you to use it.

I have had several patients during the past winter, among the profession, and have had abundant opportunity of testing its value. I shall be exceedingly proud if any of you gentlemen in future times will try the effect of this varnish.

There are only two other points connected with the local treatment of diphtheria that I will call your attention to, namely, the use of steam and ice. Both are very useful, but have to be employed under different circumstances. Ice in the early stages of the disease is often of the greatest comfort to the patient. Small pieces should be frequently taken into the mouth. Its effect is to restrain the inflammation, and if we can do this, we at once diminish the vigor of the attack; so that in the early stages of the disease, you cannot use too much of it.

Now as to the use of the very opposite remedy, namely, steam. I believe it was first recommended by Drs. James, of London, and Oertel, of Munich. Germans always give a philosophic reason for the use of remedies recommended by them. Dr. Oertel says that the effect of steam is to separate the false membrane. True it is that in certain stages of the disease steam is very useful. This is when the false membrane is beginning to separate. I do not believe it is of any use in the early stages; if used then, I think it lowers the powers of the patient. Hence you will have no difficulty in deciding when to use ice and when steam—you are to use ice in the early part of the disease and steam later.

You can make use of some antiseptic, such as carbolic acid or salicylic acid, in conjunction with the steam. It is especially desirable to do this, because at this period of the disease you will find a certain amount of gangrene, and consequently a good deal of fetor. Antiseptics will correct this. These constitute all the points under this head which I will bring to your notice.

I will make a few additional remarks in regard to the performance of tracheotomy in cases of diphtheria. I am very proud to see Dr. Cohen of Philadelphia, present, who has published one of the most complete essays on tracheotomy in the English language. He concludes that the operation should be performed at an early stage. My advice is the same; operate early. When there is considerable false membrane in the larynx, when you see the falling in of the sternum with each inspiration, then is the time for tracheotomy. You should always examine the condition of the thorax, and the posterior part of the chest, to see that the air is going into both lungs. If you find one lung is obstructed I would not operate. But still there are cases where every indication seems to be against operating, and yet the life of the patient is saved by operating. Under such circumstances the question is not whether you or the parents will take the risk, but whether the parents and friends are sufficiently sensible, should the patient die, not to attribute the death to the operation. It is perfectly useless to perform an operation where there is scarcely any chance for recovery, and the probabilities are that it will bring into discredit the whole domain of surgery. You should consider not only the interests of the child but the interests of surgery, for in this way only are we to retain the respect and confidence of the public. If you perform tracheotomy as a rule, perform it early. By so doing many cases that otherwise would result fatally will recover. Of course, if you operate very early a good many cases will recover, for the reason that you will probably operate on cases that do not require it.

By adopting the plan of treatment I have hastily sketched, I feel confident you will meet with your share of success in handling these cases, and will rescue many patients from imminent death.

ORIGINAL ARTICLES.

RUPTURE OF THE SPLEEN.

BY P. J. MURPHY, M.D.,
SURGEON IN CHARGE, COLUMBIA HOSPITAL, WASHINGTON, D. C.

H. K. W., white, æt. 25 years, born in Washington, D. C. Is of nervous temperament, has always enjoyed good health, and led an active life, is of more than ordinary intelligence, having graduated with distinction from Yale in '79, and later from one of our law schools.

He went out to Colorado in the spring of 1882, to visit some friends. He stopped at their ranche, about 600 miles south-west of Kansas City, and 86 miles from a railroad, or physician. While out riding, Friday, March 10, at 3 P.M., was struck in the left side, by a projecting fence rail, and thrown from his horse, remaining senseless for three hours.

Mr. F., his friend, describes the accident in the following manner: "You were riding a horse, and he ran so near the fence, that your left side struck against a fence rail, and you were thrown twenty feet on your back. You did not recover sufficiently to know how you were hurt till the next day. The only thing that you complained of was the pain in your side, and not being able to keep anything on your stomach. You were weak, nervous, and restless, from first to last, but no more nervous and restless than a person of your temperament would be when suffering severe pain. You suffered excruciating pain, part of the time in the bowels, in consequence of cathartics, which it had been thought best to administer; a part of the time in the stomach, apparently from some other cause, to me unknown, and a part of the time also in the injured side. You seemed to suffer almost constantly, sometimes more, sometimes less severe pain, with not infrequent paroxysms of actual suffering. These paroxysms were more severe, and more frequent in the night than in the day. You slept but very little, and that little was at short, infrequent, and irregular intervals, and I think was entirely the result of opiates. You had some fever, and no appetite. You sometimes seemed to relish a glass of milk, or an orange, and on one occasion were pleased with chicken broth. You would sometimes eat a little toast, or taste of meat, but it was without relish, and frequently caused you great distress. You adopted all expedients to find a comfortable position, both by day and by night. You tried the easy chair, the lounge, and the bed, both the sitting and reclining postures, but no position was easy. Throughout the whole, your mind was perfectly clear and active. You comprehended the entire situation, were quick to devise expedients, and ever thoughtful of your friends, and in the intervals of comparative freedom from pain were lively and agreeable in conversation."

The following is the letter of Dr. Sloan, of Kansas City, who was called to take charge of his case, four days after the accident.

"In reply to yours of the 31st ult., I can only state from memory, as I took no notes of your case, I found you, besides some external bruises and abrasions, suffering pain in the left side of chest, increased on full inspiration, with slight friction sounds on auscultation. Tenderness over the spleen with some enlargement. Pulse about 80, temperature 100°. The action of a cathartic provoked so much tormina, as to require an opiate. Discovered no fracture, aneurism, or other internal injury. This is my recollection of your case four days after your injury. Am sorry that I did not take full notes of your case."

. . . . . .

I was called to see Mr. W. on Sunday, March 19th, at 10.30 P.M., and found him much exhausted from the long journey he had taken, having travelled from Kansas City to Washington without intermission. His skin was cold and clammy, pulse 96, eyes sunken, face haggard, and all the symptoms of intense exhaustion. He complained of great pain in his left side. A cursory examination was made, in order to determine the nature and extent of his injury. A critical examination was deemed unadvisable for the present. No fracture of rib was discoverable, there was resonance on percussion over the left chest, expiration slightly exaggerated. There was circumscribed flatness over the region of the spleen, with tenderness on percussion. Hot applications were placed over the left side, covered by an oil-silk jacket, and Pulv. ipecac. comp., gr. v, in capsule, was directed to be given every four hours, till sleep was induced. A small quantity of beef broth, with a wineglassful of sherry wine, was administered, and the patient left to the care of friends for the night.

20th, 10 A.M.—Slept pretty well through the night, except when awakened by the pain in left side. Patient states that he can breathe better, and that the pain is bearable. Bowels not having opened for several days, an enema of soap-suds was directed, which had the effect of bringing away a large mass of feces, cylinder-shaped, and very thick. Directed the following recipe to be taken every four hours:

℞.—Hydrarg. chloridi mit., . . gr. j.
Bismuthi subnit., . . . ʒj.
Sodii bicarb., . . . ʒss.
Pulv. carbo. lig., . . . gr. xxiv.
M. et div. in chart. No. xii.

Temperature in axilla 99.4°, pulse 98, small and thready.

6 P.M.—Continues about the same; mouth feels dry and clammy. Has a great craving for food and drink. Diet restricted to beef tea (a teacupful) every four hours.

21st, 10 A.M.—Passed a restless night. Complains of great sinking in pit of stomach, and wishes a good drink or a "square meal."

22d, 10 A.M.—A careful examination was instituted. The margin of dulness had extended further down below the false ribs, and fluctuation was discovered. The condition of the patient not improving, and he apparently getting weaker from day to day, a consultation was decided upon by the family, and Dr. Robert Reyburn selected as the medical adviser.

April 6.—Dr. Reyburn agreed as to the presence of a circumscribed swelling, and the presence of fluid, also the advisability of introducing an exploring needle to determine its character. This was communicated to the family, but the operation was deferred till the following day.

7th.—The tumor or swelling was not so prominent, but the area of dulness had increased. This led to the further postponement of operative interference. The pain in the side had now subsided, but constant suffering was complained of in umbilical region. Had hot water-bags applied over abdomen constantly, to relieve this pain. The increased desire for food persisted through all this time, and the stools were unusually hard and copious. The same sense of sinking at the pit of stomach was complained of, and especially on assuming the sitting posture. The patient was evidently losing flesh, very nervous and excitable, and was frequently aroused through the night by the pain around the navel, and would at intervals belch and be somewhat nauseated. Was very petulant, fretful, and complained because he did not get well more rapidly. Four days after the first consultation, a diarrhœa set in, the stools being slightly bloody, and, on account of the sudden and marked flatness of the swelling, it was thought that the circumscribed swelling had communicated with, and was evacuating its contents into the large intestine. There was during this time no marked febrile condition. Accurate thermometric observations were taken twice daily, and the readings at no time exceeded 100.2°, but on one occasion was .3° below normal.

Sunday, May 14.—Patient has been sitting up in a reclining chair for a few days, and thinks he notices the lump in his side to be larger. Upon examination, such is found to be the case. A small needle of the aspirator was introduced, and three pints and four ounces of fluid withdrawn. It was deemed unadvisable to remove the entire contents of the swelling, as the patient seemed to weaken, and presented symptoms of impending shock, and I feared that I might be dealing with a traumatic aneurism (of some of the branches of the splenic to the spleen, or the vasa brevia), rather than a laceration of the spleen. I administered a wineglassful of whiskey, and had the patient put to bed. The fluid was examined by my assistant, Dr. Johnson, who gave the following report:

Amount three pints, and four ounces.

General appearance: when viewed all together, the color was dark cherry-red, but when examined in less amount, was considerably paler. It was slightly viscid. Reaction alkaline, specific gravity 1035. Upon the application of heat it became more viscid, and would fly out of the test-tube if it was held in the flame any length of time. HNO_3 would make it less viscid, and throw down a granular deposit similar to that in beef-tea.

Microscopical appearance: blood corpuscles (red) in great numbers, some normal, others crenated, leucocytes, or white blood corpuscles, three or four times the normal amount, and in some budding was in progress; some oval, with from one to two, or more processes, others dumb-bell shaped, plates of cholesterine, mucus.

May 15, 10 A.M.—The removal of the fluid seemed to relieve the sinking sensation at the pit of the stomach, and he is apparently in better spirits, and is delighted that the swelling has disappeared, as its presence caused him a great deal of anxiety. From this date the patient began steadily to improve, and on June 7, left for Nantucket.

He retured to the city August 28, and on September 23, I made a careful examination of my patient in company with Dr. Johnson, and the following facts were noted. The general appearance of the abdomen is symmetrical on the two sides. There was slight dulness on percussion below the normal margin of the spleen. Taking the point of puncture made by the needle of the aspirator, which was at the centre of the circumscribed swelling, that point is 5½ inches from ensiform cartilage, 2⅜ inches from linea alba, and 7¾ inches from the nipple, on a line passing through it drawn parallel with the body.

In considering injuries of the spleen, its location and relation to the other organs are of primary importance. It is of an oblong flattened form, very friable, and highly vascular, situated in the left hypochondriac region embracing the cardiac end of the stomach.

It is covered by peritoneum, but like all the other abdominal viscera not entirely so. The external surface smooth and convex, is in relation with the under surface of the diaphragm, which separates it from the ninth, tenth, and eleventh ribs of the left side. The internal surface is divided by a vertical fissure, the hilum, into an anterior larger, and a posterior smaller portion. The hilum is pierced by several irregular apertures for the transmission of vessels and nerves and from its margins are reflected the two layers of peritoneum, which invest the organ, on to the cardiac end of the stomach, forming the gastro-splenic omentum, which contains between its layers the splenic vessels, and nerves, also the vasa brevia. The upper end is thick, and rounded, and in relation with the diaphragm, to which it is connected by a fold of peritoneum—the suspensory ligament. The lower end is pointed and in relation with the left extremity of the transverse colon, etc., and is on a line with the lower edge of the ribs. The external, or serous coat is derived from the peritoneum, and is intimately adherent to the fibrous elastic coat. It invests almost the entire organ, being reflected from it at the hilum on to the cardiac end of the stomach, and at the upper end of the organ on to the diaphragm. Now it is easy to see how, from an injury to the organ at this point, or of the vessels, hemorrhage or effusion taking place, that it would be confined between the layers of peritoneum, hilum of spleen, and cardiac end of stomach, and thus prevented till a rupture of one of the walls of this space, from over-distention or otherwise, from gravitating to the more dependent portions of the abdominal cavity, and we would naturally get the following physical signs: slight distention of the abdomen at this point, fluctuation, and circumscribed dulness on percussion.

There are several facts in connection with this case which are worthy of mention.

1st. The rarity of the disease, and still more rare is recovery.

2d. That no ribs were fractured, which is unusual, in so far as I have been able to determine.

3d. The location and character of the swelling were, unmistakably, traumatism to the vessels of the spleen pulp. There was no bruit or thrill peculiar to aneurismal tumors, and the condition of the fluid evacuated showed that it was separated or shut off from the general circulation.

4th. The inordinate desire for food, the modification of appetite and disposition, were well marked, and apparently bear no slight significance to the results obtained in physiological experiments on this organ.

5th. The remarkable change for the better which took place after the removal of the fluid, and the patient's restoration to health after so grave an injury, as the external violence sufficient to produce such an injury is in itself almost always fatal.

THE TREATMENT OF FRACTURE OF THE CLAVICLE.

BY HARVEY L. BYRD, M.D.,

PRESIDENT AND PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, IN BALTIMORE MEDICAL COLLEGE, ETC., BALTIMORE, MD.

EVERY surgeon of much experience in treating fracture of the clavicle, must have been struck with the inadequacy and want of adaptability of several forms of apparatus in general use, or employed in the management of that accident at the present time; and has had occasion for annoyance and disappointment at the result of its treatment, in some cases at least, even after the most careful attention, and when circumstances seemed to encourage the hope of a better result.

A description of fracture of the clavicle is unnecessary, of course, in an article intended for the perusal of medical practitioners, and a presentation of the anatomical structures, and the relations of the parts involved in the accident would be as superrogatory as an account of the lesion itself, at the present day. Nor is it deemed either requisite, or necessary, in a brief journal article, to comment upon and criticise the various appliances which have been, or are now, in use, in the treatment of this particular trouble.

I will, therefore, only remark, that after more than the third of a century of active professional work, four years of which were passed as an army surgeon in the field, and as chief of two large military hospitals; that my opportunities have been ample for contrasting the merits of the more popular appliances used in the treatment of such cases.

During this long period of time, I have found that though success was often attained, and satisfaction with the result of the treatment secured to the patient, that these important ends were reached without special regard to the particular apparatus employed, *i. e.*, the surroundings, and conformity of the patient to the instructions given him, were factors of equal, if not superior, value to the mechanical appliance that was used for his relief.

Practitioners are aware of how difficult a matter it is, sometimes, to keep patients quiet sufficiently long to secure proper union of the fractured ends of the bone, arising mainly from the apparently trifling character of the injury; and hence, the necessity for the use of an apparatus which *will* keep the broken ends in apposition, in every case, and allow at the same time of exercise in the open air, if the patient chooses to take it.

Experience will show that this important desideratum has been fully met in the apparatus represented in the accompanying cut; and it will be seen that there are improvements which meet all the other requirements involved in fracture of the collar bone, viz: extension and counter-extension; freedom in the movements of the ribs and muscles concerned in respiration, etc. etc. Thus, it would seem, there is absolutely nothing more needed as a mechanical appliance for the scientific and successful treatment of such fractures, when this instrument is properly adjusted. The use of an ordinary sling or handkerchief will give all the comfort and support that is required for the elbow and forearm, when the patient desires to be up.

The apparatus has been submitted to several of my *confrères* and professional friends, and their verdict, after careful examination, has been a hearty approval of its merits. It will be readily perceived, upon an inspection of the cut, that all the necessary leverage for reducing the fracture, and keeping the broken ends of the bone in apposition, is obtained by means of the two plates in their action upon the inferior angles and dorsi of the scapulæ, which serve as fulcrums for drawing and keeping the shoulders backwards, and for the attachment of a special lever for action, as necessary, upon the shoulder of the fractured side. Thus the shoulder-straps, attached

by buckles to the superior and inferior lateral margins of the plates, may be so adjusted as to meet all the requirements of a majority of cases, without bringing the special lever for the shoulder into requisition at all; and when the ordinary sling is added for the comfortable support of the elbow and forearm, the usual bandage, axillary pad, etc., become entirely superfluous and unnecessary. Any amount of leverage that might be desired, however, can be readily added to the apparatus by attaching buckles to the inferior lateral margins of the plates, for securing and properly adjusting a piece of webbing around the front and sides of the chest. (These buckles do not appear in the cut.) From what has been said above, it will be readily perceived that the apparatus is well adapted to a larger field of usefulness than that of fracture of the clavicle, valuable as it is in that trouble. Such cases, for example, as stooping of the shoulders, as is often found in schoolgirls and boys, in hump or round-shoulder in the adult, etc.

Description of the Apparatus.—Reference to the cut will show it to be composed of two metallic plates, of sufficient size to cover the scapulæ of an adult person. These are connected together by means of a flat steel bar, to which is attached a lever, extending over and fronting the anterior apex of the shoulder, through the distal extremity of which passes a thumbscrew from before backwards, and to the end of which a concave metal plate is attached, with its concavity looking to the anterior apex of the shoulder. This lever is adapted for transference to either shoulder. Screws are used for keeping the several parts in their proper places, and to allow of the adjustment of the apparatus to persons of different sizes. All parts of the instrument that come in contact with the surface of the body of the patient are nicely padded.

I am indebted to the skilful workmanship of the Messrs. F. Arnold & Son, instrument makers, of this city, for the accuracy and faithfulness with which they executed my design, and from which the accompanying cut was taken.

127 Arlington Avenue.

MEDICAL PROGRESS.

Hyoscine.—This alkaloid is as yet not much known. Mr. Snell's experience with it up to the present is not extensive, but he believes that it possesses qualities which will probaby bring it into vogue. Two salts of hyoscine have been supplied to him—a bromide and an iodide. At first he used a solution of the strength of the ordinary atropia one (2 gr. to 1 oz.), but after reading the abstract of a paper by Emmert (abstracted from the *Archiv für Augenheilkunde*, in the *Ann. d' Oculist.*, vol. ii., 1882, p. 51, and *Practitioner*), of Berne, on this alkaloid, it appeared to be unnecessary to do so. He states that a drop of one-tenth per cent. hyoscine solution is more rapid and more manifest on the pupillary sphincter and the accommodation than a drop of atropia solution of one-half per cent. He can bear out this statement as to the rapidity of action on the pupil, as dilatation certainly takes place quicker than with atropia: He does not know, however, that its effect passes off in a much shorter time than atropia; nor does his experience allow him to say anything as to its efficacy as an accommodation paralyzer. Undoubtedly it is a powerful pupil dilator, and it is asserted to be more serviceable for breaking down iritic adhesions than the other mydriatics. In one case in particular, with numerous adhesions, which yielded little to atropia (2 gr. and, he thinks, 4 gr. solution), and with no appreciable change in the vascularity of the ocular surfaces, and this notwithstanding the internal administration of hydrarg. perchlor.; here the substitution of (1 in 1,000) hyoscine solution produced a somewhat wider dilatation of pupil, and the rapid disappearance of the surface vascularity.

The present price of the drug is high, but independently of the necessary reduction with increased demand, the weakness of the solution used materially reduces the cost. It should be added that Emmert, in his paper, refers to the hydriodate of hyoscine.—*Ophthalmic Review*, October, 1882.

Bacteria of Venereal Diseases.—Dr. Leistikow (*Deutsche Med. Zeit.*, No. 36) was unable to find any specific bacteria in the hard or soft sores, but was successful in the case of gonorrhœa. It is affirmed that a specific can be distinguished from a simple urethral discharge by the aid of the microscope. The microbes are only sparingly present in the stage of acute inflammation with profuse thick pus; their numbers are greater in the thin milky discharge of chronic gonorrhœa. They were discovered also in a case more than a year old; this is held to demonstrate the danger of infection at that date. Birch-Hirschfeld, like Klebs and Aufrecht, was able to find bacteria in syphilitic new formations in the brain, lungs, liver, stomach, and bowels; they were most abundant at the limit of the granulation tissue. Fuchsin was the dye used. Condylomata, hard chancres, and a papilla from a papular syphilide were taken fresh and examined for the sake of comparison. Microzymes were richly present in the cells of the rete Malpighii and in the connective tissue of the papilloma. Nothing was made out of the blood. The individual bacterium is a very short (μ, one micromillimetre) and relatively thick rod, with the ends rounded off; in some preparations a spindle-shaped group was formed of rods three to five times longer, lying parallel to one another. Besides these existing free in the tissues, others (of the smaller sort) were seen *in* the cells of the granulation tissue.—*Med. Times and Gazette*, Sept. 30, 1882.

The Incubation Period of Scarlet Fever.—In his last annual report on the health of the Newmarket Rural District, Mr. Armistead refers specially to an outbreak of scarlet fever as one of peculiar interest, as serving to throw considerable light upon the still doubtful points of the duration of the infection in scarlet fever, and also upon the period of its incubation. An outbreak occurred in a village early in the year, and the disease was carried by one of the cases to another village (Westley), where every precaution was taken. But when the outbreak was nearly ended, a man from a different part of the district (Bottisham Fen) took his wife and three children in a cart to Westley on August 12th or 13th, and stayed next door to a child who had been ill with scarlet fever for six weeks, but had finished desquamating, and was so far recovered that she and the children from Bottisham Fen were allowed to play together. They went back to Bottisham Fen on the following day, and on August 19th the scarlet fever rash was distinctly seen on all three children simultaneously. The disease spread to six other children in the Fen, and to two others in another village. With regard to the duration of the fever, Mr. Armistead states that the child at Westley sickened on July 2d, the children from Bottisham Fen came in contact with

the child at Westley on the evening of August 13th, and on the following morning—the whole of the period of exposure to infection being only about twenty-four hours—and then they returned home. To Mr. Armistead's mind these facts show that the infection of scarlet fever will last six weeks at least, and be apparently as strong at the end of that time as ever it was. As to the period of incubation on August 14th: the children were removed quite away from any source of infection; on the 19th, the rash was out; and the disease actually began on the 18th, after a period of incubation of four days, or about ninety-six hours, which is the same as Mr. Armistead has found in two former cases which he investigated.—*British Medical Journal*, Sept. 30, 1882.

THE TRANSMISSION OF SYPHILIS.—From observations made on one hundred and nineteen syphilitic families, KASSOWITZ comes to the following conclusions:

1. A healthy woman can, without herself being infected, bear a child who inherits syphilis from its father.

2. A child may be born untainted if its parents, at the time of conception, are healthy, even if the mother should acquire syphilis during her pregnancy.

CASPANY is strongly opposed to this view. Even if one holds that the syphilitic poison is located in the cellular elements, the impossibility of their diapedesis into the fœtal blood has never been proved. Caspany has, moreover, succeeded in finding granules of cinnabar in great number in the blood of the fœtus in pregnant rabbits in whose jugular vein he injected an emulsion of cinnabar. He does not state as to whether this transfer occurred through the white corpuscles or not, but this mode is rendered probable from the experiments of Max Schultze.

Generally, the conditions demanded by Fournier as to the advisability of marriage of syphilitics are accepted.

1. At least three to five years must have passed from the date of infection.

2. Thorough mercurial treatment must have been employed.

3. If either or both parents are syphilitic before conception, the child may become syphilitic.

4. If both parents are sound at the time of conception, and the mother subsequently becomes syphilitic, the disease may be transferred through the placental circulation, and the child be born with congenital syphilis.

5. If the father is syphilitic before the conception, and the mother sound and not infected by the father, the syphilitic poison may reach the mother through the placental circulation from the child, and the mother either rendered syphilitic or her constitution so changed that she obtains an immunity to the disease.

The last opinion is only advanced with considerable reserve.—*Deutsche med. Woch.*, July 29, 1882.

THE CONTAGION OF PHTHISIS.—DR. C. T. WILLIAMS read a paper with this title before the Section of Medicine at the recent meeting of the British Medical Association. His conclusions are as follows:

1. The evidence of large institutions for the treatment of consumption, such as the Brompton Hospital, directly negatives any idea of consumption being a distinctly infective disease, like a zymotic fever.

2. Phthisis is not, in the ordinary sense of the word, an infectious disease; the opportunities for contagion being most numerous, while the examples of its action are exceedingly rare.

3. In the rare instances of contagion through inhalation, the conditions appear to have been—(1) close intimacy with the patient, such as sleeping in the same bed or room; (2) activity of the tubercular process, either in the way of tuberculosis or of excavation; (3) neglect of proper ventilation of the room.

4. In addition to the above, a husband may, though he rarely does so, infect his wife by coition: and this risk is considerably increased in the event of pregnancy.

5. By the adoption of proper hygienic measures, such as good ventilation, and separation of consumptive from healthy people at night, all danger of infection can easily be obviated.

MR. ROBERT ROBERTSON also read a paper with a similar title at the same meeting. He expresses his conclusions as follows:

1. Among one hundred individuals affected, about one-third have recognizably been exposed to the disease within a period having an appreciable connection with the onset of their own illness.

2. Among married couples, of which one person has been affected, there has been immunity from disease in the other person in, at least, 80 per cent. of those inquired into; and that, among the children in the families represented by patients under observation, immunity from disease occurred in nearly 69 per cent.

3. The existence of phthisis in members of the preceding generation was attended with an increased frequency of its occurrence in the succeeding one, amounting to nearly 13 per cent. Hence it may be concluded that:

1. Probably, in every case of phthisis, the inception and presence of a specific bacterium is essential to the destructive process.

2. Probably there is a certain risk of communication of the disease to unaffected persons, and, *cæteris paribus*, the greater, the more intimate the association.

3. Continued association with a consumptive person is probably not in itself sufficient to originate the disease in any instance.

4. The preparation of the lung-tissue by a chill, debility, etc., is probably as essential to the destructive process as the presence of the specific bacterium itself.—*British Medical Journal*, September 30, 1882.

OPERATIVE TREATMENT OF STRANGULATED HERNIA.—DR. ROCHELT reports a case of a man, aged 54 years, in whom a right-sided inguinal hernia had existed for many years without giving any trouble, but which finally became irreducible and caused symptoms of strangulation. The operation showed that the intestine was ruptured in three places, and that a large portion of the gut, about 12 cm. long, was gangrenous. This portion was resected, and the two ends of the divided intestine united by means of Lembert and Czerny's sutures; a drainage-tube was inserted in the canal, and the external wound dressed after Lister's method. The patient died of collapse eight hours after the operation.

Dr. Rochelt also reports three cases of herniotomy for strangulated femoral hernia, in all of which the operation resulted favorably.—*Wiener med. Presse*, September 17, 1882.

BORIC ACID IN THE TREATMENT OF BOILS.—DR. GARRIGUES states that recently he has employed a paste of boric acid in a number of cases of boils on the face and neck, invariably with the most satisfactory results. The combination he uses is the following:

Powdered boric acid,	4 grammes.
Vaseline,	20 grammes.
Benzoin powder,	0.50 centigrammes.

This ointment is perfectly non-irritating, and can be preserved indefinitely. The boric acid should be incorporated directly with the vaseline, and not first dissolved in glycerine or alcohol, or it will cause irritation.—*Journ. de Médecine de Paris*, Sept. 23, 1882.

FATTY DEGENERATION OF THE LIVER.—The diagnosis of fatty degeneration of the liver is often extremely difficult—impossible unless the organ is enlarged, and when it is increased in size often doubtful, since the characters of this enlargement are common also to others. MM. Lépine and Eymonnet have drawn attention to a new symptom of the condition, which they believe to be of considerable practical importance. The former, two years ago, called attention to the value of an estimation of the biliary sulphur of the urine as an evidence of the degree of activity of the liver. The indication now pointed out is drawn from the same source. The phosphoric acid of urine, which is in the form of phosphate, is completely removed by treating it with the magnesian solution and baryta water, so that the filtrate contains no trace of phosphoric acid. The liquid is then evaporated, the residue calcined with nitrate of potash, redissolved in water acidulated with nitric acid, and treated with the magnesian solution; a little phosphoric acid will be found, which has evidently been newly formed. This is produced by the destruction, at the moment of calcination, of the phospho-glyceric acid normally contained in the urine, and which forms an integral part of lethicine. In the normal condition the quantity of phosphoric acid thus produced in normal urine is extremely small, and does not exceed a centigramme—*i. e.*, not more than the two-hundredth part of the amount of urea contained in the same volume of urine. In several cases of fatty liver the observers have found that the amount, in proportion to the urea, was increased five-fold, or even ten-fold. At present, in no other condition, physiological or pathological, have they met with a similar increase. To what is this fact to be ascribed? Some years ago Dastre and Morat pointed out that the fat of the liver, like many other forms of fat found in the economy, contains lethicine. Lépine and Eymonnet have verified this statement by the direct analysis of livers which were in a state of fatty degeneration, and they have found, moreover, that the amount of lethicine under these circumstances is very large, amounting to no less than 3 per cent. of the fresh organ, and 15 per cent. of the dried tissue.—*Lancet*, September 23, 1882.

THE ESTIMATION OF PEPTONE.—SCHMIDT-MÜLHEIM uses the red color which a solution of peptone assumes on the addition of sodium hydrate and cupric sulphate. To make a standard solution a convenient known quantity of peptone is taken and dissolved in water. To this solution sodic hydrate is added, and then a weak solution of $CuSO_4$ until the wine-red color begins to change into blue, whereupon the entire mixture is diluted with water so that three thousand cubic centimetres contain exactly one gramme of peptone. To determine the amount of peptone in a given liquid (from which other proteids have been removed) a small amount of sodic hydrate is added, and then just enough $CuSO_4$ to bring about the change from wine-red into blue, as in preparing the standard solution. This being done measured quantities of each are brought into little glass boxes with perfectly parallel sides, standing in a good light and against a white background. Over these boxes are burettes from which water is allowed to drop until the colors of the solutions to be compared are identical, after which a simple calculation gives the amount of peptone present. This method has, of course, all the objections of colorimetric methods in general. Schmidt-Mülheim found its extreme error to be ± six per cent.—*Boston Med. and Surg. Journ.*, September 28, 1882.

HYDATID CYST OF THE HEART.—M. ARNOLD (*Gaz. des Hôp.*) reports the case of a young man, 21 years of age, who had been subject to fainting spells—heart's action energetic but the pulsations regular and normal—cyanotic condition of skin, without true respiratory embarrassment, general and confluent urticaria, manifest tendency to algidity. The autopsy discovered three hydatid cysts at the apex of the left lung; in the pulmonary artery numerous free hydatids of all sizes, still more hydatids in the right ventricle. In the right auricle a cystic tumor semi-collapsed with an enlarged slit-like opening towards the tricuspid orifice and filled with hydatids; the liver and spleen contained no cysts.—*Canadian Journ. of Med. Science*, Oct. 1882.

DETACHMENT OF THE RETINA. — DENISSENKO (*Aerztl. Zeit.*, 1882, Nos. 1, 2, 3, 4, 6) rejects the theories of Iwanoff, Klein, Jäger, Coccius, Adamük, and Rählmann in regard to detachment of the retina, especially that of traumatic origin; he and Schneller point out that these theories do not explain why and under what conditions traumatic detachment is easily cured in one case but remains incurable in the other; he discards entirely Schneller's conception of the lymph-currents in the retina. He admits that affections of the choroid may influence (though not primarily) the detachment of the retina, but maintains that in the retina itself all the conditions for the development and continuation of this pathological process are given.

Based upon his own histological investigations, Denissenko thus explains detachment of the retina. In chorio-retinitis (sometimes independently), atrophy of the rods and cones gradually sets in, extending from the outer to the inner parts and nuclei. Thus cavities are formed in the outer granular layer, which easily unite to form larger ones, and are only bounded by the limitans externa. An injury easily produces a rent in the latter; the lymph escapes from the cavities and penetrates between the retina and choroid, detaching the former. The hyperæmia increases the secretion of the lymph from the retina considerably and thus sustains the detachment.

The detachment is cured when the lymph is prevented from penetrating beneath the retina, either by adhesion of the rods and cones over the rent in the limitans externa, forming an isolated cavity, or by union between the retina and choroid around the rent, with formation of a cavity. The former event is so frequent in owls and horses that the author was at first inclined to consider it a normal condition.

The lymph causing the detachment generally comes from the retina, but sometimes from the choroid; in the latter case, however, detachment can only take place when the tension in the eye is negative.

The changes in the vitreous are only secondary results of the detachment of the retina.—*Archives of Ophthalmology*, September, 1882.

VENEREAL AND COMMON WARTS.—UNNA (*Monatshefte für prakt. Derm.*, 1882, Band 1, No. 3, p. 96) recommends for the treatment of condylomata acuminata and ordinary warts the continuous application of unguent. hydrarg. containing five per cent. of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the unbroken application for three weeks of a plaster containing in each 0.2 square metre 10 grammes of arsenic and 5 grammes of mercury, caused entire disappearance of the disease without any irritation of the normal skin. Cure was effected not by reason of necrosis and destruction of the warts, as after the use of caustics, but by resorption, as in cases of spontaneous cure.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

BLENNORRHŒA NEONATORUM.—According to HAUSSMANN, in a recent monograph on this subject, most cases

of blennorrhœa neonatorum are due to infection with the vaginal secretion of the mother, though the lochia or the sero-purulent secretion of a sore nipple or inflamed breast may also be the cause. It may also be produced by pus from a sore upon the child, or by foreign animal tissue, especially pieces of the placenta placed upon the eyes. One eye may also infect the other, or it may be conveyed upon the eye by the substances used in oiling the finger or for local application. In order to prevent the infection every woman should be cautioned to check while yet pregnant any discharge of the genital organs. If an increased secretion is not noticed until the beginning or during the course of the birth, a moderate mucous secretion may be stopped so completely by prophylactic irrigation and careful disinfection of the vulva in case of a moderately long birth-act of a multipara, that it is sufficient to disinfect the eyelids after the head is born in order to prevent infection. If there is a profuse purulent, or thin serous discharge, however, the genital organs must be frequently cleansed. The lids and their surroundings should be carefully disinfected after the birth of the head, and before they are first opened, in order to prevent any infectious substances from reaching the conjunctiva. If it is impossible to amplify these prophylactic measures before the eyes are opened, a two per cent. solution of nitrate of silver should be dropped into the conjunctival sac. After the birth of the child great care should be exercised that the lochia or the secretion of a sore nipple does not come in contact with the eye. In lying-in hospitals and foundling asylums the strictest disinfection should be practised, and the children with healthy eyes should be kept apart from those with sore eyes.—*Archives of Ophthalmology*, September, 1882.

PATHOLOGY AND TREATMENT OF RHINOPHYMA.—According to DR. HANS VON HEBRA (*Vierteljahresschrift für Derm. und Syph.*, viii. Jahrgang, Heft 4, p. 603), histological examination shows the normal elements of the skin in a condition of distorted, irregular hypertrophy. The structures in which this hypertrophy is most manifest are the bloodvessels, connective tissue, and the sebaceous glands, notably the latter, which attain gigantic size, and become transformed into cyst-like bodies. The epithelial layers covering the papillæ are the only tissues not participating in the pathological process. Contrary to Wilson's opinion, the affection has nothing in common with elephantiasis Arabum. Rhinophyma never originates with, nor is accompanied by, inflammatory processes, while the true elephantiasis Arabum consists essentially in hypertrophy of connective tissue, due to repeated attacks of erysipelatous inflammation, and in the resulting chronic œdema of the parts. In elephantiasis the œdema, especially in the more recent cases, is so great that upon incision into the diseased tissues, large quantities of albuminous fluid escapes, which is never the case in rhinophyma. In the latter disease the tissues are not soaked with fluid like a sponge, but show infiltration merely of embryonic cells. In elephantiasis the corium and papillary layers of the skin take but little share in the pathological process, which is confined to the subcutaneous tissues, directly the opposite being true of rhinophyma, so that periostitis and consequent new formation of bone, so common in elephantiasis, does not occur in rhinophyma.

The treatment followed by the author, with encouraging results, consisted in paring down the excrescences upon the nose, and carving as good a looking feature as possible out of the shapeless mass. By reason of the existing dilatation of the bloodvessels, the bleeding is often excessive, but may always be controlled by compression. Subsequent treatment is symptomatic and antiseptic, the raw surfaces eventually becoming covered with a layer of sound epidermis, showing here and there only traces of cicatricial tissue.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

THE INFLUENCE OF TEMPERATURE ON THE DEVELOPMENT OF CHARBON.—M. PASTEUR demonstrated, two years since, that fowls contracted charbon only when their temperature was lowered, their normal temperature being 111° Fahr. M. Paul Gibier has recently determined that frogs contract charbon when under the influence of relatively high temperature. He placed twenty frogs in tepid water, and inoculated them with charbon virus; five of them contracted the malady. Their blood indicated the presence of bacteria. These elements were larger than those observed in the bovine and ovine species. Guinea-pigs and rabbits were inoculated with the blood of the frogs, and contracted charbon.—*Brit. Med. Journ.*, Sept. 30, 1882.

HEMORRHAGIC PACHYMENINGITIS AND THE FORMATION OF NEW MEMBRANES IN THE DRUM-CAVITY.—MOOS and STEINBRUGGE (*Zeits. f. Ohrenheil.*, xi. 2) illustrate the connection between hemorrhagic pachymeningitis and the formation of new membranes in the drum-cavity, by the following case: The patient did not exhibit any loss of hearing, but complained of noises in the ears and similar sensations in his head. He had had an extensive hemorrhage into the optic nerve sheaths, the incarceration of the optic nerves producing choked disks. At the autopsy, in both temporal bones the adventitia of the branches of the internal auditory artery had a glassy appearance, and showed ring-like swellings. There was fresh extravasated blood between the nerves at the base of the left modiolus. The structure of the newly formed membranes in the tympanic cavity was made up of light, finely fibrous, wavy connective tissue, with a few oval or spindle-shaped nuclei. This tissue surrounded large and small meshes of bloodvessels. The vessels were generally small, of uniform size, and had the anatomical structure of capillaries. There were no traces of arterioles. Along the course of the vessels, and in the interspaces between them, were numerous small extravasations of blood. In hemorrhagic pachymeningitis the morbid process follows the course of the meningeal artery; and since the tympanic cavity derives at least a part of its nourishment from this artery, we may consider the membranes as a result of the disease, which passes by preference along certain blood-channels. The diagnosis in the case of the process in the brain was uncertain in the beginning, lying between pachymeningitis hemorrhagica and intracranial tumor. As the diagnosis of the tympanic disease just described can be made with the otoscope on account of the peculiar mixed color of the drum-head, it may be of great service in settling the diagnosis of pachymeningitis.—*New York Medical Journal*, October, 1882.

LUPUS.—The following conclusions are given by DR. RAUDNIZ (*Vierteljahresschrift für Derm. und Syph.*, ix. Jahrgang, Heft 1, p. 81), as the result of the statistical examination of two hundred and nine cases of lupus. Neither anatomically nor clinically can a difference between scrofulous and idiopathic lupus be made out, the disease appearing in the same form in already scrofulous and in entirely healthy individuals. A combination with inherited tuberculosis is only discernible in from ten to fifteen per cent. of all cases. The abscesses of the lymphatic glands, so frequently met with in scrofula, are almost never found in lupus. A contemporaneous manifestation of lupus in blood relations is seen only in the rarest instances, and hereditary transmission of lupus from parents to children

perhaps never takes place. The infrequency of association between lupus and pulmonary tuberculosis decidedly speaks against the identity of these affections. On the other hand, the facts that in at least thirty per cent. of the cases observed, lupus was developed upon or only in the neighborhood of cicatrices due to scrofulous disease, or upon mucous membranes already changed by catarrhal processes; that in twelve cases injury, and in eight cases local attacks of erysipelas were given as exciting causes of the disease, would indicate that lupus is often due to a localized, specific predisposition, the nature of which is entirely hypothetical. The small proportion of cases, seventeen in number, in which lupus was found in combination with often trivial affections of the skin, contradicts the assumption that in lupus we have to do with a generalized predisposition of the skin to pathological changes.—*Boston Medical and Surgical Journal*, Oct. 5, 1882.

The Temperature of the Human Stomach.—Dr. Rodsajewsky (*Deutsche Med. Zeit.*), of Kiew, has been making observations on the temperature of the stomach in a patient with gastro-fistula; the opening had been made for stricture of the œsophagus due to swallowing sulphuric acid. Synchronous investigations were made in the stomach, rectum, and axilla. He finds that the gastric temperature is dependent on two factors—(1) the general diurnal variation of the body-heat; (2) the temperature of the food given. The temperature of the latter diminishes during digestion. The gastric heat is lower than that of the rectum during digestion, but higher than the axillary. The introduction of hot nourishment affects the whole body as well as the stomach.—*Medical Times and Gazette*, Sept. 30, 1882.

Antiseptic Solutions of Atropia.—Mr. Simeon Snell states that for some time he has been under the impression that the irritation caused frequently after the prolonged use of atropia, partaking frequently of a species of granular ophthalmia, was owing to the fungus which so readily forms in solutions of this alkaloid. With a view to counteracting this, he had already used solutions to which an antiseptic (salicylic acid) had been added, when the notice appeared in the Ophthalmic Review (p. 58) on the observations of Kroemer on this subject. He fancies, certainly, that solutions made with salicylic or carbolic acid are better borne than the ordinary aqueous solutions. He has noticed also, though not invariably, that in a case where the watery solution had occasioned irritation, it has become lessened or subsided on the substitution of the antiseptic solution. It seems that those cases in which, perhaps, one application is followed by œdema and swelling of the lids—a genuine atropia erysipelas—belong to a different category than do those resulting merely from the prolonged use of atropia for sometimes weeks or months. The former is more of the character of an idiosyncrasy.

A good plan to prescribe atropia, he believes, is with vaseline. In some cases it is certainly better tolerated in this way, and the vaseline is aseptic.—*Ophthalmic Review*, October, 1882.

An Operating Couch for Venereal Wards.—Dr. O. Peterson writes, in the *St. Petersburger Medicinische Wochenschrift*, a short account of a new kind of couch now employed in the syphilitic wards of the Alexander Hospital, St. Petersburg. In minor operations about the groin and the genitals, the loins and nates of the patient are apt to become soaked in blood, morbid secretions, or lotions used for washing the wound or seat of disease. To avoid this inconvenience, Dr. Peterson has contrived a bed, interrupted in the middle by a space one square metre in extent, unoccupied by any mattress; on each side of this space, towards the head and foot of the bed, is a mattress covered with macintosh. A deep tray is fitted to the iron sides of the bed, so as to lie under the open space, the tray is perforated by a large aperture through which the fluids may escape into a receptacle beneath. A stout iron bar bridges over the space, being fixed to the iron sides of the bed, along which it can slide upwards and downwards. In the middle of the bar is a raised portion, convex upwards and covered with a narrow macintosh pad or cushion. If a bubo has to be laid open, the couch is rolled alongside the patient's bed, and he is raised on to the couch, the bar over the space being slid under his nates, so that his sacrum rests on the elevated cushion. The sinus, when laid open, can be freely washed and syringed, the fluid running down the perineum or over the pelvis, by the flanks, into the tray under the space, and the integuments of the patient's back escape all contact with the fluid. The flanks and perineum can readily be dried. By a contrivance, the foot of the couch can be elevated or depressed, to place the patient in a convenient attitude for phimosis operations, or for any incisions in the perineum, where much blood is lost, and free washing with water or lotion is required.—*British Medical Journal*, September 30, 1882.

Digestion of Cane-sugar in the Human Stomach.—From experiments made on this subject, Leube (Virch. *Arch.* lxxxviii. 2, 1882) concludes that experiments which have heretofore been done were rendered untrustworthy by the fact that the sugar used was not of pure quality. He insists that the first requisite for the success of the experiment is the purity of the sugar used. It must be taken in the form of crystals. We must always subject the specimen to the sulphate-of-copper reduction test before using it. He experimented with the gastric juices of healthy and diseased stomachs, and finds that they act quite differently as to their effects on cane-sugar. Both possess the power of reducing cane-sugar, but their powers of absorbing the reduced product are not the same. The action of a healthy stomach on cane-sugar is almost nothing, but that of an unhealthy stomach is very strong. He came to the conclusion that: 1. The gastric juices of healthy stomachs, and those of some forms of diseased stomachs, have the power of reducing cane-sugar. 2. The reduced sugar after having been formed, is absorbed by a healthy stomach, but not always by a diseased stomach. 3. The acids of the gastric juices play an important *role* in reducing the sugar in the stomach.—*New York Med. Journ.*, Oct. 1882.

A Source of Error in the Examination of the Knee-phenomenon.—Prof. C. Westphal (*Arch. f. Psych. u. Nerv.*, Bd. xii.) calls attention to the fact that certain patients, in whom the knee-phenomenon has been positively absent for a long period, may exhibit at certain stages of the disease strong contraction of the quadriceps on percussing the patellar tendon.

Three cases are cited in which this occurred, persisting for a short time, and then disappearing. The author concludes that this is not a return of the tendon-phenomena, but is a skin reflex; for when a fold of the skin over the patellar tendon was lifted and squeezed between the fingers, contraction of the quadriceps followed; also pinching and percussing a fold of the skin in other parts of the leg may excite in some cases contraction limited to the quadriceps or extending to other muscles of the leg and thigh. There exists, he says, two independent phenomena: namely, a true, and a pseudo knee-phenomenon. It may be claimed that, as in tapping over the tendons, the skin

is necessarily excited; at the same time the presence of the true phenomenon in such a case could not be proven. Opposed to this are the facts that, in the first case (tendon-phenomena), the ordinary immediate and quick contraction follows percussion, while in the second (skin reflex), at least at first, a distinctly appreciable interval occurs. As a rule, also, stronger percussion is required to produce contraction in the latter than in the former case.

The author reports experiments made by himself and others to elucidate this nature of tendon-phenomena; in one of which, notwithstanding that sections of the fifth, sixth, and seven lumbar, and first sacral pairs of nerves were made, the knee-phenomenon remained completely preserved. He enters into a consideration of the question whether it is a true reflex or not. Although leaving the question undecided, he still favors his former view, that muscular tone and a certain degree of tension and vibratory power of the tendons are the only conditions necessary for the production of the tendon-phenomenon, the additional theory of a teflex process by means of centripetal nerves from tendons or muscles being unnecessary.—*Journal of Nervous and Mental Diseases*, July, 1882.

BURNS OF THE EYEBALL BY CHEMICAL AGENTS.—In speaking of this subject, WEINBERG (*Rec. d'Ophthal.*, June, 1882) takes up first the subject of burns from acids. He finds the accidents caused by mineral acids generally more severe than those caused by metallic oxides, because being liquids they spread much more easily and cause more extensive accidents. The accidents caused by the contact of the conjunctiva with acids vary according to the degree of affinity which the latter have for water, and according to the extent of the surface of contact. When the agent is alkaline, as, for instance, quicklime, the results are much more grave. Immediately after its introduction into the eye, there is seen upon the conjunctiva a thick, white, adherent membrane, surrounded by a chemosis. Burns of the cornea are graver than those of the conjunctiva. When only the superficial layers are injured, the scar is white and transparent, but when the whole cornea is involved, it is hard, white, and opaque. Burns of the sclera are usually superficial, it being protected by the conjunctiva. As regards treatment, Weinberg advises first a careful removal from the eye of all trace of the chemical agent which may have entered it, and then dilution or neutralization of the agent, cold water syringing being the best means for this purpose, except in cases of burns by quicklime, where it should never be employed.—*New York Med. Journ.*, Oct. 1882.

RUPTURE OF THE UTERUS.—DR. R. H. SABIN presented a specimen of rupture of the uterus at a meeting of the Medical Society of the County of Albany. It had been thought to be a slough of the fundus resulting from inflammation, but was concluded to be a true rupture, extending across the entire fundus, with ragged edges, the adjacent parts being thinned. The uterus was the size of one at the third month of pregnancy; it presented no appearance of malignant deposit.

The subject, aged 46, was the mother of eight children, the youngest 4 years old. In August she complained of gastric irritation, but did not believe herself pregnant. Six weeks later she was taken with profuse flowing, for which she was given ergot, tannin locally and afterwards tamponed, checking the hemorrhage. No evidence of fœtal existence was found. She was much prostrated, and stimulants were given as freely as she could retain them. This was October 4th. On the 6th she was taken with severe pain across the lower part of the abdomen. She died the same day. Some time prior to the commencement of the hemorrhage she had been taken with bearing-down pain, for which another physician had prescribed. He found a polypus the size of a fig attached to the uterus, projecting from the vulva, which detached on the introduction of a sound; no hemorrhage followed, and she was gaining fair health up to the time when the flowing began. Autopsy showed the uterus as described. There was a little pus, but no blood in the peritoneal cavity.

It had been suggested that the case was one of extra-uterine pregnancy, the supposed polypus being a portion of membrana decidua, but this diagnosis was subsequently withdrawn by the author. On discussion, there was conclusion that a body of some sort must have been present within the womb before rupture occurred.—*Medical Annals*, September, 1882.

CONVALLARIA MAIALIS.—M. ROYER recommends the following formula for the administration of this drug:

Extract of *Convallaria maialis*,	q. s.
Simple syrup, . . .	100 grammes.
Tincture of sweet orange-peel,	5 "

This is said to make a very agreeable mixture, resembling syrup of bitter oranges.—*Bull. Gen. de Ther.*, Sept. 15, 1882,

THE BASE AND ACID RELATIONS OF THE SERUM OF THE BLOOD AND OTHER ANIMAL FLUIDS, AND THEIR RELATION TO THE FORMATION OF SECRETIONS.—PROF. MALY (*Wien. med. Woch.*, July 1, 8, 1882) concludes a paper on this subject with the following deductions: 1. In spite of the alkaline reaction of the blood, it contains salts of an acid reaction, such as the monophosphate of sodium (NaH_2PO_4), which forms when the diphosphate of sodium and carbonic acid come in contact. 2. That such alkaline-reacting substances as diphosphate of sodium and bicarbonate of sodium are, theoretically, acids, since they contain an intact hydroxl which is capable of being replaced by a metal. 3. Both organic and inorganic acids are continually formed in the blood by oxidation, such as carbonic acid, sulphuric acid, phosphoric acid, and such intermediate acids as hippuric acid, uric acid, etc. 4. The changes between the acids and bases in the blood are highly complicated, as they are in other fluids, and, although the reaction of the blood is alkaline, there are many compounds of it which are of an essentially acid nature. Alkaline substances are to be found in the blood only in an empirical sense, while, theoretically, alkaline substances are not to be found there, nor indeed is it possible for them to exist in it. 5. The acids and acid salts of the blood are much more diffusible than the neutral substances, and therefore in such a mixture of salts and acids as we find in the blood, the acid molecules are more diffused. This he concludes to be very important in the formation of acid secretions by the various glands of the body. He then gives the chemical formulæ for the various transformations in the body. He concludes by saying that, since the blood brings about acid reactions, it must be acid itself. He then raises the question, What part of it produces these acid reactions? He thinks that there are many acid parts of it; that the acid substances are very minute, but are in a free state. The stronger the acid, the less of it is free, and the more of it combines with salts; the principal free acid is carbonic acid, because it is the weakest, and the only one in a gaseous form. The action of these acids is expended on all mineral and organic substances which can combine as bases, from carbonic acid to the albuminous molecules. From these causes the digestive substance, peptone or propeptone, has an acid reaction, as he promises to show in a future publication.—*New York Medical Journal*, October, 1882.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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THE RELATION OF THE MENTAL STATE TO THE CRIMINAL RESPONSIBILITY OF SUPPOSED LUNATICS.

IN the issue of the *Journal of Nervous and Mental Diseases* for July, 1882, which has just reached us, THE MEDICAL NEWS is severely criticised because it ventures to hold opinions at variance with certain New York neurologists, including the editor of the journal above referred to. There are two counts in the indictment. One is that THE NEWS adheres to the legal definition of responsibility; the other, that it indulges in "cant," and is "unscientific." The last two expressions are used to designate the character of an editorial as compared with a paper in a local journal, in which Guiteau is solemnly affirmed to be possessed of an "affective or moral insanity"—in other words, of the form of monomania entitled "reasoning mania," or the euphemistic *primäre Verrücktheit.* We are quite willing to be separated by a broad line of demarcation from this group of mental philosophers.

With the view to render our own position clear, and at the same time to demonstrate its consistency, we must recall a few points in the Guiteau literature. Guiteau was an eccentric, who, to a singular religious training, added an incomplete education as a lawyer. As is the case with the class of "deadbeats" in general, who to a man are indisposed to steady employment, he resolved to get his living by his wits as so many of his predecessors had done. To be put into some lucrative position, where the pay is large and the duties merely nominal, was the special object of his ambition. Seeing no prospect of such a consummation from the administration then in power, he began to reflect on the important position he must occupy if he should "remove the President." No lawyer within his experience had been convicted of the vulgar crime of murder. A maniacal impulse had been, within the range of his own observation, admitted as a cause of crime, for which no punishment but temporary incarceration in an insane asylum had been inflicted. "Transitory mania," "insane impulse," and similar terms, had, in various celebrated criminal trials, been all-powerful in securing acquittal. He therefore concluded that, as a lawyer, these pleas would be sufficient with court and jury, and that although remanded to an insane asylum, there would be no difficulty in a short time in re-establishing his sanity—in proving his recovery from transitory mania. After an experience of this kind, there was no question in his mind, he would be adequately rewarded for his sacrifices by the new administration. Such, doubtless, was the process of ratiocination by which this poor wretch arrived at his determination to perpetrate the crime.

The question of Guiteau's responsibility rests entirely on the question whether he possessed sufficient power of will to restrain him from the commission of a crime which he considered would advance his interests. The successive determinations, and withdrawals from them, by which he advanced to the crime, show that if he had not had a sure conviction of his acquittal he would finally have decided not to attempt the murder. Having thus a clear conception of the nature and consequences of his act and sufficient will to restrain his inclination to commit the crime, we hold that he was a responsible being before the law.

We have, also, distinctly recognized the fact that Guiteau was not a normal person. He had the characteristics of the criminal class to which he belonged by right of birth and through the influences of a faulty education. The criminal class is abnormal. They have a mental structure whose manifestations are toward vice in its various forms, and a bodily conformation which corresponds. They are inferior, mentally and physically to the average type of the community in which they have their origin. They have misshapen heads, poor chests, and weak muscles, as a rule, and in their mental make-up, the appetites and passions dominate the reason and judgment. As respects their inclinations, they have little power of will over their actions, and when an object is much desired, their reason is powerless over the means intended to accomplish the end. Such was Guiteau. To assume that an abnormal individual of such a type, is not amenable to the ordinary responsibilities for human conduct, is to exempt the great body of the criminal class from punishment for their crimes.

Guiteau had the expansive ideas of a subject of dementia paralytica, but his schemes were not un-

reasonable. The establishment of such a paper as he proposed in Chicago, was not a chimerical scheme like running a railroad to the moon. Indeed, the best informed on this subject agree that his plan had the elements of success in it, if rightly carried out. As respects his other schemes, there was no inherent improbability in the purposes which he had in view. Contact with politicians had, doubtless, taught him how inferior in every respect were the men who had attained to high station. That he should entertain an ambitious project of this kind, was surely no evidence of delusion of the expansive type, characteristic of dementia paralytica. There was, therefore, nothing in the conduct and condition of Guiteau to separate him from the criminal class to which he belonged by inheritance of a faulty organization, and by education. He was one of them, to be judged accordingly, and not to be compared with the average type of normal human kind.

Much stress is laid on the microscopical appearances of Guiteau's brain. The gross structure did not depart in any material way from the ordinary type. Cerebral topography has not yet attained the dignity of an exact science, and hence the attempt to give importance to particular convolutions, as described by unknown experts, is not fortunate. The changes unearthed by the microscope are more important. The view of THE NEWS, in the editorial which accompanied the details of the microscopical examination, has been generally adopted, and is the view maintained in an editorial in the July number of the *Journal of Nervous and Mental Diseases*, just issued.

The initial lesions of dementia paralytica are those described in the record of the microscopical examination. How long did these exist? It must be remembered that Guiteau was an individual of the neurotic type. Now it is obvious, that the lesions of evidently recent occurrence owed their existence to the deterioration of health produced by the confinement in jail and the excitement incident to the trial. They are too recent and restricted to be referred to the period when the abnormalities of his life began to be manifest. If to these changes of the organic substratum is to be referred the impulse leading to the murder of the President, all other eccentricities of his life must also be explained by them.

THE NEWS was also criticised because it maintained the judicious doctrine that conclusions should not be reached from a mere study of *post-mortem* appearances—that the clinical history must be studied in connection with the alterations of the organic substratum. It is surprising that such a statement should require vindication. Who does not know that extensive disease of the brain may co-exist with a normal state of the intellectual functions, and that mania may not be accompanied by any recognizable evidences of cerebral disease? The late Dr. J. Hughes Bennett, for example, was found after death to have a tumor of the brain involving the cortex, and it was not alleged that he suffered from some form of mental derangement. So obvious, indeed, is the accuracy and applicability of this statement that it would be a waste of time to adduce arguments and facts in its support.

We must regard it as a fortunate circumstance that right views prevailed at last on the Guiteau trial. If the opinions of the experts for the defence had decided the contest, the most hopeless criminal might plume himself on the doctrine of irresponsibility based on the paralysis of his will. He might have a perfectly just conception of the nature of the crime and of the punishment awarded by the laws, but if he could secure experts to prove that he committed a crime because he had an insane impulse, and his will was overpowered, he might look forward to acquittal as an irresponsible lunatic.

MERCURY IN SYPHILIS.

IT is astonishing how firmly rooted and almost ineradicable a popular prejudice against any particular drug, or even against any special system of medication, becomes if judiciously fostered and encouraged. The persons who appeal to public sentiment in medical matters are usually quacks or fanatics, often ignorant, and generally unscrupulous, but by dint of constant repetition, and by generalizing from isolated and exceptional cases, and by assuming that errors once common in the profession, but long since outgrown and discarded, are still of frequent occurrence, they rarely fail to secure a zealous and numerically respectable following. Homœopathy owes most, if not all its successes, to the reaction which has taken place against the excessive dosing of the last century, and which, originating in the wider observation, and more scientific methods of modern medicine, has been sagaciously, though dishonestly, appropriated by the Hahnemannians. The anti-vaccinationists derive their only shadow of reasonable support from a few isolated and dubious cases of unpleasant sequelæ, the result of ignorance or carelessness. The indiscriminate bloodletting of our predecessors, while it unquestionably shortened many lives, has doubtless caused the loss of not a few by producing the almost total abandonment of this powerful and, when rightly applied, beneficial therapeutic measure. And in the same manner, the inordinate use of mercury, with the unnecessary production of salivation and other toxic effects of the drug, has resulted in a prejudice against it, which, nursed by homœopaths, herbalists, and advertising quacks, has survived to the present day,

and is encountered almost constantly by the practitioner.

This prejudice probably does more harm among those members of the lower social stratum who are unfortunate enough to contract syphilis, than among any other class of the community. Not accustomed by training or education to depend upon the dictum of an intelligent family physician, too poor to seek specialists, and imbued with the idea above mentioned, derived usually from the columns of the daily papers, they either fall victims to the counter-prescribing druggist, who, even if he by chance recognizes their ailment, yields readily to their request for some "vegetable" preparation, or else they are robbed and maltreated by the charlatan whose announcement of "no mercury" has happened to attract them.

All this is bad enough, and can only be remedied by the greater diffusion of knowledge among the lower classes, and by more stringent legislation, which will protect them in their ignorance against these and other unauthorized or incompetent practitioners. Unfortunately, however, this same prejudice is sometimes encountered within the ranks of our profession, and among physicians who should be better informed. It is quite time that every medical man who assumes the charge of a case of syphilis should be aware that statistics derived from a careful observation of thousands of cases, and from an impartial comparison of results obtained by different methods, show conclusively that the chief if not the only chance a syphilitic patient has of complete recovery depends upon the intelligent employment of some form of mercury, during a more or less protracted period. Perhaps no therapeutic fact is better established, certainly none is more important in its bearing on the general welfare.

The reason just mentioned—the overwhelming clinical evidence in favor of the usefulness of the drug, both in the control of the early symptoms and the prevention of later developments—is sufficient for its employment, but there are equally good theoretical reasons. The discussion of these we shall reserve for a future article, contenting ourselves for the present with reiterating the fact that, whether mercury acts as a true tonic in syphilis, directly increasing the number of the red blood cells, or as a physiological antidote of some subtle poison which it destroys, or by means of its power in promoting destructive metamorphosis and fatty degeneration, thus hastening the removal of accumulated cell products, it is unquestionable, first, that it does good, and that syphilitics to whom it has been properly administered do far better than under any other known plan of treatment; and, second, that the physician who prescribes it is not choosing the least objectionable horn of a dilemma, but is employing the most rational and scientific method known to the profession for the relief of one of the most terrible and destructive maladies.

THE SOURCE OF THE VACCINE DISEASE.

The statement made in these columns, based on the reports of Gassner, Ceely, Badcock, Putnam, of Boston, and others, that the vaccine disease, as it occurs in heifers, is modified variola has been warmly disputed. Such was the original view of Jenner, and such has been the experience of Jenner's immediate followers. Some unfortunate inoculations of variolous matter, by Dr. Martin, of Boston, and similar experiences elsewhere, threw doubts on Jenner's doctrine. Furthermore, Jenner's doctrine has been strongly opposed by Chauveau, of Lyons, Bollinger, of Germany, and Fleming, of England, who have maintained that spontaneous cowpox is a different malady from human variola. Some new observations by Dr. Voigt, of Hamburg, have resolved the doubts and re-established Jenner's authority.

As Superintendent of the Vaccine Institute, Dr. Voigt may be supposed to have some acquaintance with the subject of vaccinia, and to be able to reason aright from the simple experimental data which he has obtained. For an account of these investigations we are indebted to our contemporary, *The Medical Times and Gazette* of Sept. 23, 1882. Voigt's experiments reconcile the contradictions involved in such trials as Martin's, whose inoculations of variolous matter produced only smallpox, and the trials of Ceely, which, after much painstaking experimentation, finally produced the true vaccinia. Voigt has demonstrated that true variolous matter must be passed through at least six animals to be properly transmuted. That which is obtained by the first inoculation has all the activity nearly of the original variolous matter, but by successive transmissions through the system of the cow such a reduction in the activity of the poison (virus) is effected that the results of its inoculation correspond to those of the spontaneous vaccinia so-called. The behavior of this vaccinia corresponds to the action of the variolous poison as modified from vaccination. It is known to all the world that some cases of varioloid possess a virulence closely approximating variola, whilst others are so far modified and lessened in activity that they are scarcely ill. Now, it is obvious that the infection of heifers will have a corresponding activity. Some will have a degree of virulence closely approximating true variola, and others will have the mildness of vaccinia.

It thus happens that the researches of Voigt have supplied us with the needed data. We are now able to reaffirm the orignal position of Jenner, and

maintain that vaccinia is a modified variola—modified by transmission through the system of the cow. If true variola is inoculated, the product is but slightly inferior in activity to the original variolous poison; but by successive transmissions the virulence is gradually abated, until it attains the properties of vaccinia. If modified variolous poison is inoculated in the heifer, the product has a corresponding activity. Thus by the timely selection of the matter inoculated we can regulate the virulence to suit the conditions to be provided against. In the future we ought to be furnished with vaccine having the degree of activity just necessary to our purpose.

THE CURE OF DIABETES WITH BROMIDE OF POTASSIUM.

M. FELIZET asserts that he has a record of five cases of diabetes cured by the administration of bromide of potassium. Holding the view originally expressed by Claude Bernard, that diabetes is produced by irritation of the floor of the fourth ventricle, he used bromides to remove this morbid condition. He finds that the local irritation is arrested and the disease cured by the administration of the bromide of potassium. The cure is effected, quite irrespective of dietetic regulations, by the effect of the agent on the medulla. However, large doses kept up for a long time are necessary to effect the curative result.

On this side of the Atlantic the bromides have long been used in the treatment of diabetes. We do not know of any reports which can exhibit equal results to those achieved by Felizet. Have the doses administered been too small, not persevered in sufficiently, or given in cases too far advanced to permit repair? These are questions which will require a large number of carefully observed cases, to answer with certainty.

LIFE INSURANCE FOR MEDICAL MEN.

IF, as we believe, life insurance is a wise provision for most men, for doctors it is especially wise. Life, which is uncertain at the best, is peculiarly uncertain for our profession from its very nature. If he whose house burns down uninsured is accounted careless, how much more should he be whose life is suddenly terminated without any provision for the future; and with this difference in favor of life insurance, that everybody must die, but not everybody's house must burn down.

Moreover very few doctors ever accumulate a fortune. With ordinary ability and ordinary faithfulness, a doctor is sure to obtain an income which will give him and his family a good support, an income which is almost as certain as a salary. But it is rarely large enough for him to lay by any considerable sum from year to year. If he live to old age, or if his income be exceptional, or if he engage successfully in other business or in speculation, he may become rich. But it is expressly to provide against the possibility of poverty following early death, or failure in business or speculation, that life insurance is valuable. As medical examiners, a very large number of the profession are familiar with the wisdom of insurance, and with signal instances of its benefits. As a rule, the medical examiners are, we believe, insured, as indeed consistency would require. But we fear that only a small percentage of the remainder of the profession have so provided for their families.

It is often objected that life insurance is so uncertain that the risk of dying early is less than the risk of losing all one's investments. But after a careful survey of all the life insurance companies in this country, the *Ledger* has shown that only about one per cent. of all the insurances effected have been lost, whether through the ordinary casualties of business, bad judgment, fraud, theft, etc., all combined—a percentage less, we imagine, than that which is true of most other forms of business, and, of course, in recommending insurance, we take it for granted that the insured will use proper wisdom and only invest in well-established companies whose strength is a guarantee of payment in, it may be, a far distant future.

WHILE we heartily advocate athletic sports among college men, we are glad to see that the Harvard College authorities are about to undertake the regulation of this matter of physical exercise, in order to give it its due development, but yet not to allow it to encroach on the studies of the college course; that is to say, the proper business of the young men.

They propose to limit the students to athletic sports as amateurs and not as "professionals," a position they have been rapidly drifting into of late. With the assistance of the faculties of other colleges they propose, therefore, to prohibit their baseball clubs from playing with professional clubs. They will retain the present excellent supervision of the gymnasium which Dr. Sargent exercises, and will add to it some one to see that the students take proper care of themselves in their sports and that they do not go to excess. This latter person will take the place of the professional college "trainer," whom they have dismissed.

The Yale faculty, however, have declined to join Harvard as to the baseball nines.

OUR esteemed contemporary, the *Lancet*, we notice, in quoting from our columns lately, transforms our friend, Dr. Formad, into Dr. Furniss, and still more curiously adds a monarchial halo to our staid old College of Physicians by an allusion to the *Royal* College of Physicians of Philadelphia.

REVIEWS.

A SYSTEM OF HUMAN ANATOMY, INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. BY HARRISON ALLEN, M.D. With 109 plates and 250 wood-cuts, drawn by Herman Faber. Section I., HISTOLOGY, by E. O. SHAKESPEARE, M.D. Section II., BONES AND JOINTS. 4to. pp. 241. Philadelphia: H. C. Lea's Son & Co., 1882.

A BOOK like this is an ideal rarely realized. It will do, we have no doubt, what its accomplished author hopes, "make anatomy—what unfortunately it rarely is—an *interesting study*." Dry bones are of the driest when merely the bare facts about them are stated. But the value of anatomy to the medical man as distinguished from the scientist, like that of an observation, "lies in the application."

The "sauce piquante" which whets the appetite, is found in the explanation which anatomy gives of the facts of disease in its clinical relations.

It has long been an opprobrium to America that our anatomical text-books were all foreign. But this work will remove the stigma. It is a mine of wealth in the information it gives. It differs from all preceding anatomies in its scope, and is, we believe, a vast improvement upon them all. While the anatomical descriptions are full, they are not prolix, and they avoid many of the details which, though of scientific value, are worthless to the doctor. Yet the variations of the parts will be sufficiently described. But the chief novelty about the book, and really one of the greatest needs in anatomy, is the extension of the text to cover not only anatomical descriptions, but the uses of anatomy in studying disease. This is attained both by stating the narrower topographical relations and also the wider clinical relations of more remote parts, by giving a brief account of the uses of the various organs; and by quoting cases which illustrate the "localization of diseased action." In future parts there will be sections on monstrosities, on the method of conducting *post-mortem* examinations, and on superficial anatomy as a guide to the positon of the deeper parts.

Dr. Shakespeare has furnished the section on histology, and it is well done. We regret however, to see nearly all the illustrations are copies, and that the magnifying power, instead of being stated exactly, is indefinitely described as "high," "low," or "medium."

We have not space to enter into any details of the section on the bones and joints. Suffice it to say that it shows on every page evidences of Dr. Allen's wide learning and judicious selection of material, embarrassing by its very richness. The style is in general succinct and clear, but sometimes from its brevity it lacks clearness, as in part of the description of the movements of the elbow-joint. We regret to observe the use of "diagnose," for "diagnosticate," which is the proper, and indeed the only proper, English word.

Second editions can only be corrected by the discovery of faults in the first. Hence we take the liberty to point out a few minor errors. Thus on page 114, Holmes Coote's name, and on page 140 Dr. Mütter's, are mispelled, and so on page 230 with Gemelli. On page 117 the coronoid process of the ulna becomes coracoid. On page 149 the last two words of the last paragraph are incorrect. In Plate XXXIII., while it is not incorrect to print the name gastroc-nemius, it would have suggested its Greek origin much better had it been gastrocnemius. So too in the text the foramina of the sphenoid bone are called by their English names, while in the plates the Latin are used, a confusing thing to a beginner. The foramen spinosum is not shown in the plate.

But these are such small faults in so fine a work that we scarcely would dare to call the author's attention to them, were it not that we wish it the greatest possible success, and, therefore, the greatest possible perfection.

The plates are beautiful specimens of work by one who long since won a deserved reputation as an artist.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, October 4, 1882.

W. S. W. RUSCHENBERGER, M.D., PRESIDENT, IN THE CHAIR.

DR. ARTHUR V. MEIGS read a paper entitled

CLINICAL OBSERVATIONS ON ALBUMINURIA, BASED UPON A STUDY OF SIXTY-TWO CASES SEEN IN PRIVATE PRACTICE.[1]

During the last eight or nine years, he said, it has been my habit to keep a record of the examinations of urine I have made. That record now contains notes of between sixteen and seventeen hundred examinations, and a study of it recalls to my mind, with more or less distinctness, the histories of sixty-two persons suffering with albuminuria. In a number of instances I have been able to follow cases for a series of years, from this circumstance. In particular, the number of years the patients were under observation, I have been enabled to satisfy myself of some clinical facts, particularly in reference to the diagnosis and prognosis in this complaint, which I hope may be worthy of your attention.

That which has most impressed me, is the impossibility of making a prognosis, with any degree of exactitude in most cases of Bright's disease. Of course, in the plainer ones, the decision is easy; if asked an opinion in a case with a large, or even moderate amount, of albumen in the urine, with increasing heart failure, and evident decline of strength and vitality, with headaches and the peculiar white complexion of the disease, it is easy to prophecy that such a person will not live long, and the prophecy, nine times in ten, comes true; if called, however, to decide questions of the future for a young man of thirty-two or three, previously well, but for some weeks complaining of headaches, malaise, and boils, and then examination of the urine shows a slight amount of albumen, granular and hyaline casts, and abundance of rather small oxalates, the question of the future is not so easily decided. I have seen such cases go on pretty well for a few months, then suddenly have convulsions, and die in a few days. Again, persons presenting identical symptoms, after being sick a few weeks or months, entirely recover. To my mind it is impossible, in the present state of our knowledge, to anticipate the future, and the patient should always have the benefit of the doubt, and be shown the brighter, rather than the darker side of the picture.

I know of three persons in whose urine I found albumen and tube-casts, accompanied with all the other signs of Bright's disease more than eight years ago, who are yet alive. One is a lawyer in easy circumstances, who was taken sick in January, 1874, when he was fifty-six years of age, with what appeared to be a bad cold, but he had extreme dyspnœa and exces-

[1] Many of these cases occurred in the practice of my father, Dr. J. Forsyth Meigs, but a large majority of them I saw from time to time myself.

sive restlessness and nervousness, although he is usually very self-composed. The dyspnœa seemed greater than could be accounted for by the extent of disease of the lungs, which amounted only to moderate bronchitis; the urine being examined, it was found to contain a trace of albumen, some blood, and tube casts. It should be said that this man had suffered in previous years with attacks of gravel,, when he would pass blood, and small calculi. Nearly four years afterwards, there was still a trace of albumen in the urine, and granular casts, showing that the condition was by no means merely temporary. Ever since, he is liable to severe cold, and always suffers more than common with oppression, although it usually takes the form of a common coryza. He is now sixty-four years old and an unusually young-looking, active man of his years.

In contrast with this case, a woman of about sixty was seized in the night, having gone to bed apparently in her usual health, with an attack of oppression, and what her physician called congestion of the lungs, so violent that it was thought she would die at once; she, however, rallied by morning. An examination of the urine, made a few days afterwards, revealed the presence of a slight trace of albumen and casts. Four months afterwards there was still a trace of albumen in the urine, and granular and fatty casts, although she was up and about as usual, being merely very weak, having no apparently urgent renal symptoms. At a later examination, the trace of albumen was still found, but no casts. About seven months from the first discovery of the disease, she had another violent attack of oppression, and died in a few hours. Now what are the points to distinguish these two cases? One died after a few months' illness, and the other, having had apparently the same complaint and almost identical symptoms, is, after eight years and a half, still alive, and more, apparently unusually well for his time of life.

In December, 1874, a lawyer in full practice, then about fifty-four years of age, was taken with an attack of acute catarrhal pneumonia, and was also found to have albumen and tube-casts in the urine. He was sick all that winter and the following spring, the urine constantly containing albumen, and granular and hyaline casts. The albumen and casts were found in the urine during 1875 and 1876, and part of 1877. On May 2, 1877, about two and a half years from the onset of the disease, there was at last no albumen found, and the microscope revealed nothing abnormal. Since that time, although the urine was examined in 1878, 1880, 1881, and 1882, there has never been found either albumen or tube-casts, and the patient, now a man sixty-five years of age, enjoys very good health, having had no return of the disease in more than five years.

The third case is a woman, whose father, brother, and two sisters have died of the same disease. She has had a trace of albumen and hyaline and granular casts in her urine since March, 1874, when she was about thirty-one years of age. I have records of this condition in 1874, 1876, 1879, 1880, 1881, 1882. In February last she caught cold, and seemed for some time upon the verge of a severe renal attack, having coryza so that her nose was almost entirely stopped, and there were bronchial râles heard in the chest, but an amount of dyspnœa seemingly out of all proportion to the extent of the disease that could be detected by physical exploration; the albumen in the urine also increased very much in quantity In some weeks, however, she recovered, and this summer seemed in her usual health.

The father of this patient had a severe attack of hepatic colic, and passed several gall-stones in 1877, but afterwards he continued in pretty fair health for some time. On May 9, 1879, a trace of albumen was found in the urine; this continued to be present at succeeding examinations, but no tube-casts were found at this time, or afterwards, although they were carefully sought for, and about December, 1880, eighteen months from the original discovery of his disease, he succumbed to an attack of uræmic convulsions, being seventy years of age. A son and two daughters of this man died of the same disease some years before. The son, after having had dropsy, lived for several years in tolerable comfort, until a severe cold proved fatal. With the history of this son, and one of the daughters, I am not familiar, but the third one I saw, and she died in convulsions. The condition of this person before her final illness, which lasted only a few days, was in no way different from that of her sister, who is still living, and has had the disease for nearly nine years, and the attack which the surviving one had last March, was exactly like those of which I have seen other people die.

I maintain, therefore, that with our present knowledge it is impossible, in doubtful cases, to prognosticate what the result will be, and that for the patient and his family, as well as for the credit of our profession, we should be very guarded in our prognosis. The presence of albumen and tube-casts in the urine, even when found for so long a time as two years continually, is not, as shown by one of the histories I have detailed, a reason why we should necessarily give a fatal prognosis, and this is particularly the case when the patient is a person past middle life. In the face of such authorities as Beale and Grainger Stewart, many practitioners think the microscopists can better judge (by examining the urine) of the stage and form of Bright's disease they have to deal with than they themselves can. Grainger Stewart is emphatic upon this subject. On page 271 of the American edition of his work on *Bright's Disease*, he says: "Some authors attach great importance to the tube-casts. They are of undoubted value in establishing the existence of Bright's disease, considered generically, but they afford comparatively little assistance in the differential diagnosis of the different forms. Any form of tube-cast may occur in any form of the disease, and at almost any stage. Indeed, all the leading varieties may occur simultaneously in one case." Beale says (*Kidney Diseases, Urinary Deposits, and Calculus Disorders*): "Dr. Basham thinks he can judge of the stage of Bright's disease by the character of the urinary sediment. I wish I could agree with him in this conclusion. The more carefully the matter is investigated the more convinced am I that it is unsafe in many cases to attempt to draw inferences as to the stage of the disease from the character of the urinary sediment only. Nothing but a careful consideration of every point connected with the case will enable us to arrive at a general conclusion concerning the state of the disease. . . . Dr. Basham says: 'The most untractable and hopeless form of *morbus Brightii* is that represented by the presence of the fatty or oily cast.' This statement requires some qualification, for although it is quite true that some of these cases are terribly and rapidly fatal, it must be admitted that some live for twenty years and more and die at last of other disorders." With regard to the presence of oily casts in the urine, and it is upon their discovery that microscopists found their gravest prognosis, Dr. George Johnson says (*Lectures on Bright's Disease*, New York, 1874): "The appearance of oily casts and cells excites less alarm now than it formerly did. It indicates that in certain parts of the kidney the secreting cells and inflammatory exudations are undergoing fatty transformation; but I have seen many cases of complete recovery after oily casts and cells in great numbers had appeared in the urine continuously for many weeks."

A very common symptom of renal disease, and one upon which there is not very much stress laid in the majority of books upon the subject, is dyspnœa. Whenever a patient is found suffering with dyspnœa, and particularly if there is great nervousness, and loss of self-control, and anxiety, with no other fully sufficient cause for its existence, suspicion of renal disease should be aroused, and the urine examined, even if there are no other symptoms whatever pointing toward a lesion of the kidney. These attacks of dyspnœa frequently come on with great suddenness in persons who have not considered themselves sick, and such attacks are often quite rapidly fatal. This condition has been described as renal asthma, but I believe it much more common than is usually supposed. Another symptom of Bright's disease which I have frequently noticed and have never heard described, is coryza, of such a character that it gives rise to very much greater distress than any ordinary cold in the head; with this there is not much discharge from the nose, but the patient complains that he can get little or no air, except through the mouth, this being accompanied with excessive oppression, much more than the condition would seem to warrant. This symptom was first called to my attention by my father, Dr. J. Forsyth Meigs, in a case we saw together, about nine years ago.

The suddenness of the onset, or perhaps it would be more correct to say, of the discovery of the existence of this disease, is often very great. In one instance, I knew of a young man, previously supposed healthy, seized with a convulsion while sitting at the supper table, after he had finished his day's labor as a wagon-driver; this was followed by others, and the case ended fatally in a few days. In a second case, I was called upon by a young woman to explain a swelling of the vulva, with which she was suffering; examination of the urine revealed the existence of a large amount of albumen; this continued for some time, but after prolonged use of iron, her condition improved, and she had apparently fair health, until about two years later she became pregnant, and died within a few days after the birth of her child. In a third case, a man, fifty-four years of age, was seized in the night with epistaxis, a thing he had not had since he was a boy; examination of the urine revealed the cause, and about six weeks later he was found one morning insensible in the bath-tub; examination showed that he had right hemiplegia; a vessel in the brain had ruptured, presumably from the same degeneration which six weeks earlier had caused the nose to bleed. On the other hand, the insidious nature of this disease and of its onset is a matter of such common report that I will not weary you with any cases illustrative of this fact.

The existence of oxaluria, or of uric acid lithiasis, is a prolific source of mischief to the kidney. The deposit of oxalates, or uric acid in the kidney, and its passage outwards, occurs most frequently in persons who are large eaters, living an inert life and taking but little exercise. Such people are common among the rich in large cities, and I have seldom failed to find tube-casts in the urine of any one who passed gravel for any length of time, whether oxalates, or uric acid, even if the calculi were microscopic in size, and this, commonly before any albumen was to be found. Later, if there is any considerable amount of gravel passed, albumen and blood will be found in the urine. If the attacks of gravel occur often, they are apt, at last, to be followed by Bright's disease, directly caused, probably, by the mechanical irritation of the lining membrane of the tubules of the kidney, by the sharp edges of the minute calculi passing through them.

It cannot be proved by statistics, and yet I think there is strong ground for believing, that the proportion of deaths caused by affections of the kidney is greatly on the increase. The tendency of modern life seems to be such, that a larger number of deaths are caused by degenerative processes, and less by acute disorders. In former times, children were less delicately reared, and a larger proportion of the frailer ones probably died of exposure and want of care; now, beginning at childhood and continuing up to old age, we are much more careful to avoid exposure, and are more self-indulgent, at least, as far as our bodies are concerned. Who, in modern times, except the professional athletes, would undertake the physical labors of the Emperor Charles V. of Germany, of whom Motley says, that he was able to tell, at a time when all journeys were made on horseback or by boat, "of his nine expeditions into Germany, six to Spain, seven to Italy, four to France, ten to the Netherlands, two to England, as many to Africa, and of his eleven voyages by sea!" Nowadays the majority of city men are in their places of business all day, and take but little exercise, eating as much, and as rich food, as in former times, and drinking not little withal. The natural and necessary consequence follows, that after years of this kind of life, the excretory organs degenerate; first the kidney, which is the common sewer of the body, and, like the heart, has to do continual work, from the hour of birth until the hour of death. It is a common thing in modern life to see a man naturally robust and gifted with a large appetite, become more inert as years go by, when he will gradually give up his active exercise, until finally he takes none; still the eating and drinking go on, and he becomes fat and sluggish; finally he loses health, and then examination shows that degeneration is beginning in the kidney. I could instance several cases of the kind but my space will not allow me.

The drift of my paper has been to try to establish, that we should, in all ordinary cases of albuminuria, be very guarded in our prognosis, except when it is self-evident that the case must be rapidly fatal. I have now under my observation, fifteen persons, seventeen, if I count two who have albuminuria alternating or parallel with, diabetes mellitus, who have been suffering with this complaint for a greater or less length of time. With three of them, the disease began nearly nine years ago, and they either have it now, or have entirely recovered from it, after more than two years continual duration; yet in regard to no one of them do I feel able, even in my own mind, to guess, much less to formulate an opinion, as to how much longer they may live. There are absolutely no data, if such cases are considered in the light of the experience of the sixty-two I shall mention, upon which to found a positive prognosis.

Another observation I have made, is in regard to the deaths of very old people. We are all agreed I presume, that when a very old person dies, and we report the death as one of old age, it is because we are unable to put the finger upon the exact part of the old and worn out machinery, that at last refuses to work any longer, and thereby causes all the rest of the mechanism to stop. This direct cause, if sought for, will frequently be found in the kidney. To examine the urine is not always a thing that strikes us, particularly when absolutely no symptoms appear to point toward kidney disease. I have seen a number of instances, in which old people seemed to be fading out, as they often do, yet have felt entirely unable to explain to myself any direct cause for the failure, until the urine was examined, when there was found albumen, with granular and hyaline casts, and sometimes a few blood corpuscles. A careful inquiry would perhaps reveal the fact, that the amount of urine passed was very small, all this without any other symptom to point toward kidney disease; at the same time, the failure of the patient being very gentle and gradual;

or else, as not infrequently has happened, senile delirium existed, either violent or mild in type, followed at last by death.

In the whole sixty-two cases, which I will now summarize collectively, there have occurred twenty-six deaths, thirty-four are to my knowledge still living, some in better and some in worse health, and of two I have lost sight.

Five were cases of ordinary acute desquamative nephritis, with the occurrence of one death, and four recoveries. In one instance, a child, there were two attacks, two years apart, the first being unaccounted for, the second following scarlet fever; the second case occurred after scarlet fever; the third after diphtheria; the fourth was in a young man apparently healthy previously, and now in good health, his attack only lasted a short time; the fifth and fatal case was in a boy of about fifteen years of age, and came on while he was at boarding school, the onset being insidious, and the disease progressing from bad to worse, until death occurred.

Four cases seemed to be caused by the passing of gravel, principally oxalates. These people are still all living, although they have had albumen and casts present in the urine, on and off, for varying lengths of time; two of them for six years past, one for seven years, and the fourth has had two attacks of nephritic colic, about a year apart; on each occasion, albumen and granular casts, uric acid, and blood corpuscles were found in the urine.

Twenty-two cases I class as of ordinary Bright's disease, there being probably contracted kidney in the majority of instances, and of them, fourteen are dead. I made no post-mortem examination in any one of these cases. In most of them (seventeen of the twenty-two) the onset was insidious, there being no illness to mark the beginning of the disease; in one, the patient was seized with a convulsion at the supper-table, having been supposed previously to be in good health; in a second, there was a violent attack of congestion of the lungs, with terrible dyspnœa during the night, the patient, a woman, having gone to bed thinking herself in good health; in a third, there were dyspnœa and congestion of the lungs occurring suddenly; in a fourth the condition of the kidneys was discovered concurrently with an attack of catarrhal pneumonia; a fifth was a man who had had attacks of nephritic colic. He had a violent attack of congestion of the lungs, with bronchitis and dyspnœa, and was found to have albumen and casts in the urine, which condition continued, on and off, for four years; he is now in apparently good health, although the first attack was nearly nine years ago. Of these twenty-two cases, two were in one family, one soon dying, and of the other, I have lost sight; two in another family, one dying and the other, I think, being still alive, although the disease was discovered three years ago; five cases occurred in another family, the father, son, and three daughters. The father and mother of this family had ten living children, five reaching adult life, one died of consumption, and the other three, and the father, of Bright's disease, the surviving daughter has had the disease for nearly nine years. In another family there were three cases, all women; one died, having had uræmic convulsions, and the other two still live, both having had the disease for about three years. A brother has now cancer of the rectum. The mother is still alive, and although seventy-four, enjoys good health. The father died at quite an advanced age, but I do not know of what disease.

The next twenty-two cases I must classify as unaccountable; eighteen of them occurred in persons over sixty years of age, and the other four were well on in life; one was over ninety, three over eighty, and two over seventy years of age. Of these people, only five are dead, and of the five fatal cases, one was the man over ninety, two were over eighty, a fourth was seventy-seven, and the fifth sixty-seven.

The next four cases were of people advanced in life, and they died of general break-down, having in three instances concurrent disease of the heart and kidneys, with implication of the lungs, and the fourth had renal and brain disease.

In two instances there has been albuminuria with diabetes mellitus; in one sugar was discovered in the urine six, and in the other four, years ago. Since then, there has been sometimes sugar, and at others albumen; at times both at once in the urine of these two women. In neither instance have tube-casts been found. I mention these two cases in a paper upon albuminuria, because both have frequently had albumen in the urine, and I confess myself unable to explain the phenomenon, the quite frequent presence of albumen in the urine, without tube-casts, or any other sign of renal disease, and yet I can hardly believe the albumen to be merely due to cystitis, for if that were so, it should be constantly present.

In one instance I have followed for four years the history of a man who drinks to excess. At the beginning of, and for a time before, his attacks of delirium tremens, while he is consuming alcohol freely, he often has bloody urine, which will contain tube-casts of all varieties at different times, fatty, hyaline, and granular. When he ceases his consumption of alcohol, as he has quite frequently done for two or three months at a time, the urine becomes normal, as far as chemical tests and microscopic examinations will reveal its condition. In the light of this case, how can we believe that the abuse of alcohol does not produce renal degenerations? Is not this man sure to die of Bright's disease, if he continues his indulgence in alcohol?

Another case was a man over fifty years of age, who was seized with rheumatism; he progressed badly, and was much more sick than the amount of rheumatism would seem to warrant, and at last, after about three weeks, died; having obstruction of the bowel, and inflammation of the kidneys, as shown by the presence of albumen and tube-casts in the urine; also hydrothorax and extreme stupor, which seemed uræmic. This man had had an attack of influenza about three or four weeks previous to his fatal illness. Can there be any connection between the severe influenza and the rheumatism, and renal inflammation and obstruction of the bowel, of which this patient died?

The last case I will mention was a boy, who died very suddenly of congestion of the lungs, probably the first stage of pneumonia. A trace of albumen and granular casts were found in his urine, which was obtained a short time before death. This boy was about sixteen years of age, and did not seem much sick on the afternoon of one day, being up and dressed, the next morning dying, in a state of maniacal delirium, with his lungs extremely congested. There was, unfortunately, no post-mortem examination made. This case would seem one in which the pulmonary affection was primary, and yet it might be that he had a latent contracting kidney.

There has been much said of later years about kidney disease without the presence of tube-casts in the urine, and of the presence of casts without albumen. I may say that I have frequently found tube-casts in the urine when the most careful chemical examination failed to detect any albumen, and *vice versa*, have failed to find any casts at all, when the event proved the existence of renal disease.

The subject of treatment I have not even mentioned in my paper, although much might be said about it, because I have already trespassed too long upon your time.

In conclusion, I will briefly recapitulate the points which it has been my endeavor in this paper to prove.

First, that in no ordinary, uncomplicated case of Bright's disease, should a prognosis of speedy death, or even of incurable disease, be given, for I have related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others, in which the person affected has lived nearly nine years.

Second, that dyspnœa, usually taking the form of renal asthma, is much more common than is usually supposed, and when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value.

Third, that Bright's disease, as a cause of death, is on the increase.

Fourth, that it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age.

Fifth, that the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease.

Sixth, that the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine.

Seventh, that the abuse of alcohol is certainly a cause of kidney disease, as proved by the case I have related, in which it has, again and again, caused hemorrhage from the kidney, with the temporary presence of albumen and tube-casts in the urine, disappearing again with the cessation of its consumption.

DR. R. P. HARRIS said that he had observed, in cases of albuminuria, vomiting as a frequent symptom, and regarded it of diagnostic importance.

DR. H. C. WOOD asked, with regard to those cases of Bright's disease, in which neither albumen nor tube-casts were found in the urine on examination. In a case of this character, coming under his observation, he had based the diagnosis on the low specific gravity, and the diminished secretion of the urine.

DR. J. SOLIS COHEN said he had long been aware of some special association between laryngeal and renal diseases, and had attributed this to disturbance of circulation at the base of the brain, affecting both the renal nerves and the pneumogastric.

DR. JAMES TYSON said the subject of albuminuria was so extensive and presented so many phases that one is at a loss where to commence in its discussion; but he believed Dr. Meigs quite right in saying that the more one studies it the more unwilling one is to interpret it dogmatically. He thought, however, that there are some cases in which a quite positive position can be taken. To illustrate: with contracted kidney or interstitial nephritis, he thought the presence of hypertrophy of the heart a symptom which justified an unfavorable prognosis, while in cases of contracted kidney in which this stage has not been reached, it was most difficult to approximate the time of termination. He had seen persons apparently at the point of death recover so far as to be able to resume their occupations, while others apparently in the vigor of health succumbed in a few days with uræmic symptoms. Generally, death soon succeeds upon the occurrence of uræmic convulsions, and Dr. T. could not recall a case in which they were not followed by an early death in this form of kidney disease.

Again in cases of chronic parenchymatous nephritis where there are large numbers of highly fatty cells, oil casts, and free oil drops, while the patient exhibits a pallid whiteness which suggests the almost total absence of red-blood corpuscles, recovery is scarcely possible. On the other hand, he had seen many cases in which oil-casts were in the urine, recover completely.

Dr. Tyson could not, however, accept the quotation by Dr. Meigs, from Grainger Stewart, as expressing the exact truth. It is not strictly true that every form of cast may be found in every form of Bright's disease. Blood casts are not found in uncomplicated chronic Bright's disease; and, although it is common to find hyaline casts containing a few oil drops in chronically contracted kidney, highly fatty casts are never present. He did not desire to be considered as saying that casts are of conclusive value in diagnosis, but in many cases they are of great assistance. It is more particularly in the subacute and chronic forms of parenchymatous nephritis and amyloid disease that we have the same varieties of casts present, and find them consequently of little value in diagnosis.

Much is said now-a-days of albuminuria in health. But Dr. T. thought that however complete may be the absence of symptoms accompanying an albuminuria, he could not consider the kidney from which filtered a continuous albuminous urine to be in a normal state.

With regard to the question of Dr. Wood, he thought that, even throwing out those cases in which albumen and casts are overlooked by the observer in consequence of carelessness, haste, or inexperience, it was possible that there might be Bright's disease without either albumen or casts. But he had never met an instance. In such a case he would consider the symptom mentioned by Dr. Wood—low specific gravity along with a greatly diminished urine—one of the most conclusive possible.

DR. BRUEN called attention to the prognosis of catarrhal diseases of the kidney—classed as Bright's diseases. When these forms of renal disease were associated with severe catarrhal lesions in the lungs, the renal disease accelerated the fatal issue.

But sometimes catarrhal lesions were a single severe expression of general catarrhal inflammation—sometimes of local catarrhs. The etiology of these forms of renal disease offers most favorable vantage to the physician for basing his prognosis. The prognosis is good in these cases—when the heart is hypertrophied and an adequate circulation is maintained—bad in proportion to advance of cardiac mischief. Prognosis then should be made from six months to six months. In *Guy's Hospital Reports* for 1881, are to be found a number of cases of Bright's diseases without albuminuria, by Mahomed. Dr. Bruen called Dr. Wood's attention to these cases, and expressed a belief that a close study of the sphygmograph tracings would be of great assistance. Further the character of the cardiac sounds indicate the strength of the heart. This arterial fibrosis, with cardiac hypertrophy, accompanies most markedly the forms of Bright's disease in which the interstitial changes predominate over the tubular. The urine in these cases though it may not exhibit albumen will often exhibit casts, mostly hyaline, slightly granular.

Dr. Bruen called attention to the value of the shallow cell in the examination of the urine, when the casts are but few. This method is highly recommended by Dr. Johnson, and Dr. Bruen desired to elicit the experience of others as to the necessity of examining urine in a small cell, in all doubtful cases when casts might be supposed to be at a minimum.

DR. GEO. C. HARLAN spoke of the great importance of an examination of the eye-ground in Bright's disease, and of its value in a diagnostic point of view.

DR. ARTHUR V. MEIGS, in closing the discussion, said that his paper was a purely clinical one, and was intended merely to record observations made in study-

ing the sixty-two cases of albuminuria mentioned. It would self-evidently be impossible, in so short a compass, to attempt to give even a *résumé*, which would be exhaustive of so vast a subject as the one under discussion. With regard to the observation of Dr. Wood, that Bright's disease might exist without either albumen or tube-casts being present in the urine, he thought it a fact which could not be denied. As to the possibility of making a diagnosis under the circumstances, the observation of Dr. Wood that a small amount of urine of low specific gravity passed continuously for a length of time, and that of Dr. Harlan that the ophthalmoscope might sometimes lead us to a positive conclusion, seemed at present our best, if not only, means of making such a diagnosis. Vomiting is a common accompaniment or symptom of renal disease. He agreed entirely with Dr. Tyson, that in a certain class of cases of Bright's disease a very exact diagnosis was possible, and a prognosis too, but in other instances, particularly in patients advanced in life, and with the disease somewhat latent, even an approximation of the future duration of life was impossible.

DR. ADDINELL HEWSON presented the

REPORT OF A CASE OF CERVICAL LYMPHADENOMA TREATED BY THE APPLICATION OF EARTH.

He said: my reason specially for wishing to present the patient to-night is not only to describe the symptoms of this interesting disease but to show that it has been more than arrested in its course—that it is actually undergoing positive dissipation, and that, too, by what has alone been used with it from the very first of my treatment.

The following is the history:

P. M., aged 53 years, was born in Ireland, of healthy parents, who brought him to this country when he was over 17 years of age. His father died not long since, aged 72 years. His mother is still alive, but has always been, since her earliest recollections, a sufferer with arthritic rheumatism. There is no tendency on either side of the family to phthisis. He had always, prior to the first manifestations of his disease, enjoyed most excellent health, and by a long practical experience in machine shops, foundries and in the working of steam engines, he was well qualified to fill the post of an engineer, which he obtained at Girard College in 1877, and has faithfully filled ever since. There, as I have been informed, he has displayed zeal and industry not only in his own duties, properly speaking, but by making himself always useful whenever occasion might occur. Thus on the occasion of the preparation of the meals of the college, he was not only watching the conditions of the engines and boilers of its grand culinary arrangements, but was always willing and ready to assist any one with whom he might there be brought in contact. So, on a summons, he was prompt to go from one of the very hot rooms of the kitchen to one of an equally opposite temperature, in the refrigerator, large rooms made as cold as ice could make them, in which meats and other articles of food were perfectly preserved.

It was after one of these exposures that he was seized with the first symptoms of cervical lymphadenoma. Then two weeks before Christmas 1880, one year and nine months ago, he was long enough in one of these refrigerators to get all his clothing thoroughly wet and his body so chilled that he became prostrated. This exposure was followed by a general reaction and a pain in the right supra-clavicular fossa. These chills and fevers were constantly recurring for several days, and those of the second period of twenty-four hours were specially characterized by a kindred pain in the left supra-clavicular fossa. The pains of both sides subsequently extended up to the occiput and from there down the spinal column, becoming more intense at its fundamental end. With the latter there was numbness or partial want of sensation not only of his lower extremities, but all over, except, as he says, in his hands. His throat was from the first sore and his speech about a year ago became so indistinct as not to be readily understood. Three months later his hearing, on the left side, was absent, and five months later he became partially deaf in the right, not being able to hear then the ticking of a watch beyond twelve inches.

The temperature of the neck was at first highest on the left side, and continued so until last Christmas when it became, by far, the highest on the right side. He had then been treated from the first for sore throat, by gargles and medicines, anodynes, alteratives, and the like. These he continued up to the time of his coming to me. During the period to which I have referred he had both of his ears inflated by the Eustachian catheter and gum bag, by an attendant at the clinic of one of our public charities. This inflation was followed by much pain, especially in the left ear, which continued up to the time of my first seeing him, when hearing in that ear was absent. I then tested the hearing of the right ear by an English lever watch, and so showed it to be no more than eight inches.

When I first saw him, June 21, 1882, he presented a most singular appearance with his occiput and chin both drawn downwards and forwards, and his shoulders upwards, inwards, and forwards. His face was the very picture of distress. The room in which he was had, in the little time he had to await my coming there, became so impregnated by the smell from him as to make it stink like an opossum's kennel. This was still perceptible there more than an hour after his leaving the room. The patient has always admitted that this fetor came constantly from him and was often the subject of comment or of complaint by those about him. A close inspection at the first soon satisfied me that it was from the skin of the sides of the neck and from there only that the whole stench came. This was demonstrated as a fact beyond all cavil or doubt, by its complete dissipation in a few days by the dressings I used.

This poor fellow was sitting astride of a chair in the room, when I went in, gasping for breath, with a loud, irregular, stridulous respiration, whilst he supported his head by both his hands. By considerable effort he made me understand that his distresses all came from the tumors on his neck which he had all ready to uncover and show to me. Whilst he was doing so, however, I had walked partially around him, and got my first full view of his neck from behind. It there looked as if he had two necks attached to the base of his head. The growths on the right side, projecting beyond the line of the outer border of the trapezius there for a width equal to that of the whole neck, and the excrescences on the left side, produced this appearance. He then managed to tell me that his sufferings were incessant, that he had not been able, for a long time, to maintain his head when erect without the aid of a hand or some other means of support, except for a few moments; and that he could not, from a very early date of his troubles, lie down and sleep in any position over a period of twenty minutes, as he was always then startled by a feeling of impending suffocation.

The urine possessed a sp. gr. for that of the evening of 1017, and for that of the morning of 1021. Microscopic examination revealed the presence of phosphates. The quantity of urine voided in twenty hours was, according to his statement, about normal.

His pulse was decidedly frequent (102) and feeble, evidently somewhat so disturbed then by nervous

agitation. His respirations were likewise disturbed, and the impulse of his heart was feeble and diffused.

The mucous membranes of his lips, mouth, and tongue were very red and swollen. This condition being most marked around the gums and being associated with positive looseness of the teeth, at once suggested the probability of pytalism being present. The patient stated that he could not masticate any solid food or swallow any hot liquid.

His tonsils and uvula, as also his half arches and walls of the pharynx, were likewise much swollen and reddened, and efforts to inflate the middle ears by forced inspirations and expirations on his part whilst the mouth and nostrils were held tightly closed, showed that the Eustachian tubes were both completely obstructed, and although he was then free from all signs of catarrh in either antra and forehead, it was evident that the obstructions in the Eustachian tubes were, like those of the external, due to the immense size of the tumor on the outside of the neck.

The contour of these tumefactions was limited essentially to the lateral regions of the neck. Starting in the supra-clavicular fossa on either side they were greatest at first, posteriorly, along the planes of the trapezii muscles. Those muscles were, on both sides, much stretched and pressed backwards, and were very markedly defined by this backward prominence of the tumor.

The tumor, then, on both sides extended high up behind the ear, covering both mastoid prominences, but did not extend further back there than the outer attachments of the trapezii to the occiput. In front of the ears they went up to the zygomatic processes of the malar bones projecting outwards in front of each ear to more than an inch from the jaw.

The front lines of these projections dipped down to the base of the jaw on either side for an inch in front of the anterior auricular processes of the external meatuses covering up to some extent the ears, as seen from in front, and giving a strange appearance to the face by hiding the ears, and this was intensified by the hair of the beard there.

The swellings extended forwards on both sides of the face along and close to the base of the lower jaw, and as far forwards as the front of the submaxillary glands. These glands themselves were greatly increased in size; that of the right side being of the size of a hen's egg, whilst that of the left was half that size. They both projected for more than half their thickness beyond the line of the lower jaw, and furnished by the anterior extremities the limits of the growth there. Indeed a line drawn perpendicularly downwards from those extremities showed that the tumors of both sides did not come any further forward, lower down than those points, and a critical examination of the region of the larynx and of the sternal extremities of the sterno-cleido-mastoid muscles, showed that the central portions of those muscles passed through the tumors, or more accurately, that the tumors were developed there on the *inside* as well as the outside of those muscles.

To preserve as definite an idea as possible of these growths, I took and kept one set of tracings, by means of a long strip of sheet-lead one inch wide and one-eighth of an inch thick, which I placed, when well warmed by friction on their surface, along lines extending from the outer margins of the trapezii forwards and two fingers' breadth below and parallel with the base of the jaw, and as far forwards there as the anterior border of the sterno-cleido-mastoid muscles. These secured the *three fixed points* by which I could subsequently make tracings for comparison.

The actual measurements which I made before my dressing were for a line drawn across the neck just three inches below the occipital protuberance, seven and one half inches for a like line in the back, horizontal with that of the clavicles in front eleven inches, and for a line straight across the tip of one shoulder to that of the other, fifteen and one-half inches.

The measurements obtained after one week's treatment were, for the first of these three lines, six inches, a reduction of one and a half inches; for the second line nine inches, a reduction of two inches; and for the third line a trifle over sixteen inches, which being a difference in singular contrast with those of the other two lines, caused momentary surprise, but was soon found to be explicable by the increased freedom of motion of the shoulder of the right side, which allowed it to be carried well back.

At the end of the *second* week similar measurements, indicated by the interrupted blue lines dotted with red spots, the third set across the backs of the neck and shoulders were respectively five, nine, and sixteen inches, showing a change only for the first of the series.

Then, as I have said, the original infiltration into the subcutaneous cellular tissue had become so completely dissipated that the real *lymphomatous* character of the growth was to be readily recognized, and was commented upon by Prof. Jas. Tyson, who saw the patient on the morning of the fifteenth day, when I was applying the dressings. A sulcus had then formed on each side, separating very well, and defining clearly the cervical from the supra-clavicular portions. These sulcii became very great during this, the third week, especially on the right side, and they grew essentially at the expense of the truly cervical portions of the tumor.

At the end of the third week of my treatment the posterior borders of the tumors on each side had so ceased to be on the plane of the trapezii that I could not make any more tracings to be used for correct contrasts. The widest or most projecting portions of the tumors were then in the centres of the sides of the neck, that of the left side being nothing more than what would represent the natural contour of the neck there.

The patient had now not only recovered freedom of motion, lateral rotation, and flexion of his neck, but could hold himself perfectly erect. This has made an actual difference in his stature of one inch and a half over what it was at his first visit to me. His breathing became natural as early as the fifth day of my taking charge of him. He was then (June 26) able to lie down and sleep without any anodynes for twelve hours at a time, a thing he had not been able to do since the first of his attack, although he had always been treated by the free use of vegetable narcotics, bromides, and other saline sedatives. I had forbid his using anything of the kind on the night of my first seeing him. With this came improvement of his pulse, his appetite, and his general nutrition. These improvements have continued steadily going on up to the present time, the end of the eleventh week to-night since I first saw him. His complexion which was then markedly leukæmic, is now ruddy and as healthy looking as could be desired. He has regained his hearing perfectly on both sides. He has no signs of pharyngeal irritation or constriction. His voice is full and clear. His pains and hyperæsthesia of the integuments covering the growth disappeared in the first week, and have never returned.

Treatment.—This patient had never been without treatment since the onset of his attack. He saw his family physician on the next morning, who treated him first for a bad cold; then, and up to a short time before I saw him, by various constitutional remedies, such as iodides and bromides and other alteratives, and locally

by the application of tincture of iodine, blisters, and poultices. With them all the patient had, however, not obtained the least sign of relief. On the contrary, he said he had continued to grow worse up to the time of my prescribing for him. I then advised him to stop the administration of these remedies, and fearing that so sudden and complete a stoppage of the anodynes, to which he had long since become habituated, might occasion distress to his nervous system, prescribed the tincture of avena sativa, ten drops of which he was to take in hot water at bedtime every night. He took but two doses of that remedy, for on the third night he was so freed of all pain and distress that he went to bed without taking any, and slept the night through. With this single exception I have not given him anything since his first visit to my office, but have relied solely on a daily application of yellow clayey earth. This I have put on in the form of a smooth paste, thick enough to make it hold fast to the integuments of all parts where there was any swelling. This paste I made with water by means of an ivory spatula. By the latter I also made the application all over the tumefaction to the thickness of an eighth of an inch, laying on top of this a firm film of cotton batting, so as to have the clay fixed and held tightly in its place after it became dry, and until the shrinkage of the tumefaction would become such that free spaces were readily to be detected between the inner surface of the dry clay and the outer surface of the tumor. The necessity for renewing the clayey dressing was apparent every day. Indeed, after the patient had recovered his power of free motion of his neck, he did not maintain the applications in their places a whole day at a time. He never, however, washed the parts. What was left of the clay hanging to the integuments showed in itself the fact of shrinkage following the drying of each application. I dressed him in this way with the clay only once every day for eight weeks.

At the end of two months the shrinkage was such that the tumors on both sides were no longer so easily disturbed as regards their coverings by the movements of the neck. The tumors themselves were then so reduced in thickness that they were, on the left side, only small subcutaneous fragments or nodules of what was originally there, and on the right they occupied small spaces in the supra-clavicular fossa, the outer surface of the sterno-cleido-mastoid and the like surface of the submaxillary gland, all being so free by passive motion that their coverings with the earth were nothing like as easily disturbed as they were originally by the movements of the neck. For these reasons I entrusted the daily applications to the man's wife and himself. He says, however, that the applications do not hold as long and as well as my most recent ones.

In spite of all obstacles to the purely earth treatment, I am well satisfied with the progress of destruction which has taken place in this case, and my special object of bringing the patient here this evening is to show his present condition, in order that it may be compared with that which the subsequent treatment will effect.

NEWS ITEMS.

THE FEES OF PRESIDENT GARFIELD'S PHYSICIANS.—The following claims have been filed by the physicians in attendance with the board designated by Congress to audit the claims arising from the illness and death of the late President James A. Garfield. Dr. D. W. Bliss, $25,000; Dr. D. Hayes Agnew, $14,700; Dr. Robert Reyburn, $10,800; Dr. D. S. Lamb, for examination of the body at Elberon, New Jersey, $1000. No claim has been filed by Dr. Frank H. Hamilton.

YELLOW FEVER IN PENSACOLA.—The telegraphic despatches show the fever continuing, with perhaps a slight tendency to decrease. Up to and including October 9, there have been 1300 cases, and 114 deaths.

Dates.	Cases.	Deaths.
October 10th,	50	3
" 11th,	56	7
" 12th,	33	6
" 13th,	46	5
" 14th,	58	2
" 15th,	64	3
" 16th,	73	3
Total to date,	1680	143

Some encouragement may be obtained by looking at the records from week to week, thus:

	Cases.	Deaths.
Aug. 28th to Sept. 18th,	217	29
Week ending Sept. 25th,	300	25
" " Oct. 2d,	358	33
" " " 9th,	425	27
" " " 16th,	380	29
Total,	1680	143

This disease has spread to within sight of the picket line of the Navy yard, cases having occurred on the other side of the Big Bayou. The line is strictly guarded, and the people on the reserve continue hopeful that they may escape visitation. Occasionally a case of bilious remittent causes considerable excitement until its true character is determined. A general conflagration last week destroyed the supplies of provisions, but a relief steamer from Mobile is daily expected.

SEMI-CENTENNIAL CELEBRATION OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY.—The Medical Faculty of McGill University celebrated their Fiftieth Anniversary by a conversazione, on Wednesday, Oct. 6th, when an historical address was delivered by Dr. R. P. Howard, the Dean of the Faculty of Medicine, and by a banquet on the evening of Oct. 7th.

Dr. Howard entered upon a review of the Faculty since its inception fifty years ago. After referring to the laying of the corner-stone of the present Montreal General Hospital, on the 6th of June, 1821, he said the first Canadian medical school was established by five of the hospital staff, Drs. Stephens, Robertson, Holmes, Caldwell, and Loedel. During the first session twenty-five students attended, not one of whom now survive. The first lecture-room was in a small wooden building in the Place d'Armes, where the Bank of Montreal now stands. The next event in the history of the early days of the Faculty, was the bequest by the Hon. James McGill. In the year 1811 he bequeathed a valuable property and £10,000 currency for the purpose of endowing the College which was to bear his name, and form part of the University, which it was believed was the intention of His Majesty George III. to establish in Montreal. In 1820 the royal charter was obtained for McGill College, but litigation as to the will prevented possession of the estate till 1829. On the 29th of June, of that year, the Montreal Medical Institution was constituted the Medical Faculty of the College, and the first session of that Faculty was held in 1829-30, at which 35 students attended, and since then its lectures have been continued annually, except during the three years comprised in 1836-39, so that the present is its 50th session.

After speaking at some length of the formation of the University, he proceeded to sketch briefly the lives of the four men who were the founders of medical teaching in Canada—Dr. Andrew Fernando Holmes, who

died in the year 1860, and during the last eight years of his life, was Dean of the Medical Faculty; Dr. John Stephenson, who, from the records of the Montreal General Hospital, had probably the honor of originating the medical institution, and who died in 1842; Dr. Wm. Robertson, who died in 1842, and Dr. Wm. Caldwell, who died in 1833.

He concluded with an elaborate eulogy of the late Dr. George W. Campbell, former Dean of the College. He suggested the establishment of a faculty fund in memory of the late Dean, to be known as the "Campbell Memorial Fund." Yet such a fund established by citizens, would be a graceful tribute to the memory of a good man and an able physician, and at the same time a gratifying evidence that the Faculty's career and work have merited their approval.

The guests were then invited to the upper hall, and the conversazione was opened. It was a most brilliant reunion, all the professions being well represented. The band of the 65th Rifles played an excellent programme of music. Refreshments were served from several tables.

There were about 200 guests present at the banquet, including some of the most distinguished members of the medical profession, not only graduates of McGill, but also representatives from other famous medical institutions, besides several members of other professions and leading business men of the city of Montreal. The chair was occupied by Dr. R. P. Howard, Dean of the Medical Faculty. On his right sat his Honor, Lieutenant-Governor Robitaille, who by a happy coincidence was not only the representative of the Queen in the Province, but was also a physician and graduate of McGill College; he responded at length, to the toast of the "Lieutenant-Governor of Quebec." Principal Dawson responded to the toast of "The Principal of the University."

Dr. James R. Chadwick, representing Harvard University, responded to the toast "Sister Colleges," as did also Dr. Burkham, President of the University of Vermont, Dr. Workman, of the old Toronto School of Medicine, D. D. Osennens, of Victoria College, Dr. Covernton, of Trinity College, Toronto, and Dr. F. W. Campbell, of the Medical Faculty of Bishop's College.

In the course of the dinner, Dr. Howard announced that he had just received a letter which might justly be termed the first fruits of the appeal that he had made on the previous evening, as to the necessity of an endowment for the Medical Faculty. The writer, whose name he could not divulge, said, "that the remarks in the admirable address of last evening, on the necessity for increased means to enable you to extend and render still more efficient the work of your Faculty, impressed me so strongly that I shall be glad to assist in procuring this, and now make the proposition that if by the first of August next, you succeed in securing the $50,000 referred to as the Campbell Memorial Fund, I shall have the pleasure of handing you an additional $50,000, for the purpose of the Medical Faculty of McGill University." This announcement was received with enthusiastic applause.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE has just been received. From it we learn that during the fiscal year ending June 30, 1882, 36,184 patients received relief from this Service, of whom 13,048 were treated in the hospitals and 23,136 at the different dispensaries; 333,475 days' relief in hospital were furnished; 312 trusses, 23 elastic stockings, 8 knee-caps, 7 pairs crutches, and other appliances have been issued to outgoing patients. Transportation to their homes has been furnished to 7 incurable patients.

The number of seamen treated shows an increase of 3,571 over last year.

In addition to the relief furnished, as shown above, 273 seamen in the Revenue-Marine Service and 33 seamen of the Light-House and Merchant Service have been examined, and 2,090 pilots have been examined for color-blindness.

Of late years there has been a great change in the manner of furnishing supplies to the various hospitals and relief-stations of this Service. Instead of purchasing them at the ports in limited quantity, and of such quality as might be procurable, the supplies are now bought by contract, delivered at Washington, and are inspected and repacked for distribution. This insures uniformity in the character of supplies, and, as far as medicines are concerned, their chemical purity.

There were thirty-six applications for appointment to the Medical Corps, and fifteen candidates appeared for examination, eight of whom passed, and seven were appointed into the Service, taking rank in order of merit.

The recommendation for the establishment of a marine hospital at Cincinnati has been concurred in by Congress, and an appropriation made.

The construction of the marine hospital at Memphis has not yet been commenced, owing to the difficulty in procuring the title to the site selected.

The examination of pilots for color-blindness has been continued during the past year. The following case is given as illustrating in a marked degree the efficacy of the Holmgren worsteds as a test for color-blindness:

A pilot on one of the revenue steamers was examined by a medical officer of this Service and pronounced color-blind. He appealed from this decision, and requested that a board be appointed to examine him. The board reported, as the result of the examination, that with the green skein he matched brown and orange; with the purple he put blue; and he repeatedly matched the colors as stated. The board was "of the opinion that Mr. —— is color-blind. He is otherwise physically qualified to perform the duties of a pilot." This report was forwarded to the Secretary with the following indorsement: ". . . . From the report of the board it will be seen that Mr. —— is green-blind and red-blind."

The friends of the party being still dissatisfied with the report, and claiming that in the Merchant Service he would be entitled to a re-examination by signal lights, the Secretary ordered the examination to be so made. The following is the report of the board:

Mr. C. was first shown into a dark room, where two green lights were burning—one, the standard; the other, green, but not up to the standard. After some hesitation, both were pronounced red. Then the change was made to both red, which he, after the some hesitation, pronounced both green. Then red and green were shown. These he got correct, but immediately changed the red to green; and then, when asked to state definitely, changed back. On the fourth trial, the red and green were shown, and the answer was correct. On the fifth trial a red was shown alone, and the answer was correct. Then this was removed and another red was put in its place—the change being made in full view of the applicant; this he pronounced green.

In view of the above facts, as developed by these tests, the local inspectors were satisfied that the applicant is unable to "sufficiently distinguish the colored lights on steam-vessels," and therefore refused to grant the license asked for.

It is gratifying to learn that the above and one other are the only cases in which the verdict of the skeins has been called in question during the past year. The pilots are now satisfied of the perfect fairness and effi-

ciency of the test. In the other case the applicant came all the way from the Pacific coast to lay his case before the Department, and he was re-examined in this office. The skein test showed green-blindness. An unanswerable proof of the infirmity of the applicant was given when a scarlet book was held against a white wall until the complementary color appeared. The spectators were requested to write on a slip of paper the name of the complementary color as it appeared to to them; which they did. The applicant was then asked to name the color, which he was entirely unable to do, saying it all looked "the color of the wall." others had, however, written on their respective slips "pale" green and "light" green. This experiment is strongly corroborative of the scientific propriety of the term color-*blindness* as applied to absence of color-sense.

ELECTION OF OFFICERS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.—At a stated meeting, held Thursday, October 12, 1882, the following officers were elected for the ensuing year: *President*—James Tyson, M.D. *Vice-Presidents*—J. Solis Cohen, M.D., F. P. Henry, M.D., E. O. Shakespeare, M.D., J. B. Roberts, M.D. *Secretary*—P. G. Skillern, M.D. *Recorder*—C. B. Nancrede, M.D. *Treasurer*—M. S. French, M.D. *Curator*—Carl Seiler, M.D.

AMERICAN ACADEMY OF MEDICINE.—The Seventh Annual Meeting of the American Academy of Medicine, will be held in the hall of the College of Physicians, Thirteenth and Locust streets, Philadelphia, on Thursday, October 26, at 3 o'clock P.M. Dr. Traill Green, of Easton, Pa., the President, will deliver an address at 8 P.M., Thursday, October 26, to which the profession is invited.

FOSTER'S PHYSIOLOGY has been translated into Italian by Prof. Michele Lessona.

PERSONAL.—PROF. GUSSENBAUER, of Prague, has refused the call to Würzburg to fill the vacancy caused by Bergmann's removal to Berlin.

PROFS. SOCIN of Basle, and MARS of Freiburg, have been proposed by the Medical Faculty of Würzburg as the successor of Prof. Bergmann.

DR. MARION SIMS.—Dr. Marion Sims sails for Europe shortly, and will spend the winter in Rome for the recuperation of his health.

PROF. ROSSBACH, the Professor of Pharmacology in Würzburg, who has been called to Jena as the successor to Nothnagel, has accepted the position and will commence his course during the present winter term.

MEMORIAL OF BECQUEREL.—A statue has been erected at Châtillon-sur-Loing, in memory of Becquerel, the eminent physicist. MM. Dumas and Frenuz made eulogistic addresses at the inaugural ceremonies held on September 24.

GIFT TO UNIVERSITY COLLEGE HOSPITAL (LONDON). —MRS. NATHANIEL MONTEFIORE has given £2,600 to University College Hospital, for the endowment of two beds in memory of her late brother, Sir Francis Henry Goldsmith, Bart., and her late son, Mr. Leonard Montefiore.

DIED, on September 19th, DR. EDWARD COX, of Battle Creek, Michigan, in the 67th year of his age. Dr. Cox was one of the pioneer physicians of the West, and was in 1878 President of the Michigan State Medical Association. He was an able writer and took quite a prominent part in politics.

ERGOT IN SOME AFFECTIONS OF THE BONES.—At the recent Congress for the Advancement of the Sciences, held at Rochelle, M. DE MUSGRAVE-CLAY, of Pau, read an interesting paper on this subject, in which he mentioned a case of white swelling of the neck, occurring in a child six years of age, in which the administration of powdered ergot greatly reduced the pain and swelling, and arrested the suppurative inflammation of the bone. He states that no danger of poisoning need be feared in its prolonged use.—*Bull. Gén. de Thérap.*, September 30, 1882.

BIRTHS IN PARIS.—From September 8th to September 17th there were 1154 births in Paris: of these, of the male sex, 419 were legitimate, 156 illegitimate; of females, 437 were legitimate, 152 illegitimate.—*Le Progrès Méd.*, September 23, 1882.

HEALTH REPORTS.—The Sanitary Engineer proposes to publish the most important data collected by the National Board of Health, and heretofore published in the *Bulletin* of the National Board of Health, the latter having been discontinued on account of the refusal of Congress to grant the necessary appropriation for defraying the expenses of its issue.

A TOWN CLERK'S HEALTH REPORT.—Dr. J. T. REEVE, Secretary of the State Board of Health of Wisconsin, in the annual report of the Board for 1881, just published, refers to the difficulties he encountered in obtaining statistics from certain townships. To facilitate the collection of the necessary *data*, he distributed a blank form of the annual report, to be filled up and returned. Generally, very satisfactory responses were made; but in one case "the Clerk returned no answer to any communication for two or three years; finally, the blanks were enclosed in a sealed envelope, addressed to the most important office in the township, and indorsed with a request to the Postmaster to forward them to the official in question. This plan succeeded, and the following choice epistle from the Clerk was received in answer: 'I should like it if the Ligislatures would appropriate about $1000,000 to be dewided between the Town Clerks for making the 1000 and once reports which are sent to us dayly. They institute offices and appoint Cummissioners so as to feed a lot of politicians which they need to run eelections. The Town Clerks has to do the runing, picking up Statistics gratis free and for nothing and the Cummissioners draws a good salary will (with?) a few days of actual Labor.' This document, which is given *verbatim et literatim*, was written on a scrap of paper, apparently torn from the bottom of an old letter, and forwarded as the report from a town of about 1,800 people, and is the only report ever yet received by this Board concerning the health and sanitary conditions of the community in question."

NIGHT MEDICAL SERVICE FOR BROOKLYN.—Brooklyn is about to follow New York and Washington in the establishment of a night medical service.

IMMIGRANT INSPECTION SERVICE; NATIONAL BOARD OF HEALTH; OPERATIONS IN THE WESTERN DISTRICT DURING THE MONTH OF SEPTEMBER, 1882.—Supervising Inspector Rauch reports that during the past month there have arrived and been inspected in this District, comprising the States of Indiana, Illinois, and Missouri, a total of 14,404 immigrants, of which number 2,918, or

about one-fifth were found imperfectly or not at all protected against smallpox, liable to contract the disease and to propagate the contagion. Of these, 234 had never before been vaccinated, among which were many adults.

There were found in transitu five cases of smallpox which were removed to hospitals in St. Louis and Chicago respectively, the necessary precautions taken with those who had been exposed, and the cars and belongings thoroughly cleansed and disinfected. Of these cases, the inspectors have made full and detailed reports, that of Inspector Starkweather being as follows:

September 6.—Found a case of modified smallpox in the person of a single woman, thirty-nine years of age, coming from a small town near Manchester, England, and bound for Neenah, Wisconsin. She had been vaccinated only once—and then in infancy. She presented a card certifying that she was vaccinated, signed by the surgeon of the steamship *Scythia* of the Cunard Line. On the obverse was the following, printed in English and four other languages: "*Keep this card to avoid detention at quarantine and on railroads in the United States.*"

The patient occupied passenger car No. 424 of Pennsylvania Railroad. The rash appeared on Monday A. M., September 4th, or before the time of leaving the ship. The ship's surgeon did not look at her arms she said, nor so far as I could ascertain did he do any vaccinating of his people, and made only a very superficial and worthless inspection. The eruption must have appeared sixty hours before the time I first saw her. It was located upon the forehead, cheeks, neck, and upper extremities somewhat abundantly; none apparent upon lower limbs. The patient said it was prickly heat, and that she would soon be over it if allowed to go on to Neenah,

Oscar C. DeWolf, M.D., Health Commissioner of this city, saw the patient with me in consultation on the car at my request, partly to satisfy the patient and partly to protect the Inspection Service and railroad corporation against possible malicious action for damages in the future. She made no opposition to being taken in the ambulance to the smallpox hospital. The car was thoroughly fumigated by the City Health Department, and the necessary instructions were given to the railway company concerning its present use.

I vaccinated sixty-five adults, who had been more or less exposed on the train, the railroad officials cheerfully and courteously rendering every needful assistance. Two of the people whom I vaccinated at their own request, belonged to the crew of the train.

This case was detected before leaving Valparaiso, Ind., but partly owing to want of facilities at any point nearer than Chicago, it was brought on to that city for treatment—every precaution being meanwhile taken to prevent any exposure of others during the remainder of the journey.

The cases, four in number, removed to the hospital in St. Louis, were detected while still in Illinois. These were found among a party of Bohemians bound for Missouri, have all since convalesced and been discharged. So far as has been ascertained, no other cases have been caused by these.

The importation into Ford county, Ill., reported in my last (see THE MEDICAL NEWS, Sept. 16, 1882, p. 336), gave rise to three other cases, of which one terminated fatally. (This was the importation by a horse-dealer returning from France on a stock-boat, the *Friga*, which boat, it is alleged, escaped inspection at New York quarantine. The horse-dealer, Hefner, contracted his disease from a case of modified smallpox which occurred during the voyage. As he did not travel as an immigrant in this country, he was not seen by any of our inspectors.) The outbreak was confined to one family, and danger of any further spread is not now anticipated.

Concerning the character of the protective work done by steamship surgeons, there is still the same disparity noted as has been commented upon before. Passengers arriving by vessels of the same line present the most marked contrasts. On one, the surgeon will have made a careful inspection and have vaccinated or revaccinated all unprotected or doubtful cases; on the very next arrival by the same line, evidences of gross carelessness will be found in children of all ages holding the surgeon's cards, but without any personal evidence of ever having been vaccinated; and, in the case of adults, not revaccinated since infancy, but similarly equipped with cards to secure them, in several languages, "against detention on railroads in the United States."

Copies of my previous reports, forwarded to the officers of the various lines, have in many cases, it is believed, been productive of improvement in this respect; but the steamship medical service is not yet by any means what it should be in its treatment of immigrant passengers with regard to the preservation of health. In the absence of any adequate national legislation prohibiting the introduction of foreign pestilence, and the want of proper State and local legislation, I know of no better method of securing the result, under present conditions, than by giving publicity to the character of the work done by each surgeon, as shown in the condition of the immigrants passing through his hands and arriving in the interior.

Unprotected immigrants, susceptible to smallpox and capable of propagating the contagion, have been received in this district during the past month from the following vessels:

Steamships Abyssinia, Wyoming, and Arizona, Guion line.

Australia, Westphalia, and Leipzig, Hamburg-American line.

Bermuda, line not reported.

Brittannic and Germanic, White Star line.

British Crown, Lord Clive, Ohio, and Pennsylvania, American line.

Canada, Trans-Atlantic Company.

Circassia, Anchor line.

City of Chester and City of Montreal, Inman line.

Dupuy de Lome, Compagnie Commerciale des Transports a Vapeur Francais.

Edam and Pollux, Royal Netherlands line.

England and The Queen, National line.

State of Georgia and State of Nebraska, State Steamship Company.

Main and Strasburg, North German Lloyd's.

Ontario, Dominion line.

Parthia, Malta, and Pavonia, Cunard line.

Plantyn, White Cross line.

The most notable line for disregard of vaccinal protection of its passengers is the American, of Philadelphia. In one instance, twelve passengers out of fifty by the steamer Pennsylvania, of this line, were found totally unprotected, never having been vaccinated at all. Yet every one had been furnished a steamship protection card. This proportion will hardly hold good throughout, but the number of unprotected by this line is far in excess of any other.

In gratifying contrast to the foregoing exhibit is that made by the surgeons of the following-named vessels, many of them belonging to the lines above enumerated, but on which the vaccinal service appears to be thorough, the inspections careful, and the vaccinations and re-vaccinations effective:

Allan Line: Sardinia.

Anchor Line: Ethiopia.

Cunard Line: Samaria, Servia, Cephalonia.

Dominion Line: Dominion.
Great Western Line: Gloucester.
Guion Line: Iowa.
Hamburg-American Line: Bohemia, Gen. Werder, Wieland, Frisia, Vandalia, Gellert.
Inman Line: City of Chester, City of Berlin, City of Paris.
Monarch Line: Grecian Monarch.
National Line: Helvetia, Spain, Egypt.
Netherlands-American Line: Schiedam.
North German Lloyd's: Salier, Nurnberg, Elbe.
Red Star Line: Vaderland, Pennland, Belgenland, Switzerland, Waesland.
Royal Netherlands Line: Surrey, Jason.
State Steamship Co: State of Florida, State of Missouri, State of Indiana.
Stettiner-Lloyd's: C. H. Schultz.
Thingvalla Company: Hekla, Island.
Trans-Atlantic Steamship Company: France, Amerique, St. Laurent.
White Star Line: Baltic.

One inspector notes the difference in passengers arriving by vessels of the same line at Boston and at New York, and attributes the superiority of those arriving at the former port to the character of its inspection service. I have also had occasion to note that we have had, in Illinois, but one case (a mild varioloid) which could be attributed to Boston, in something over a year.

Evidence of the growing interest in this protective measure, is found in the increasing numbers of immigrants vaccinated, or revaccinated just before sailing. This is especially true of the English and Scotch, and in a great measure offsets the occasional opposition to the inspection, met with from individuals of the same nationalities, and which seems to be due to the anti-vaccinationists of Great Britain.

Vaccination performed at this time, *i. e.*, prior to sailing, has the advantage of enabling the steamship surgeon to judge of its effectiveness during the voyage; and it would be a decided improvement on the present general plan, of waiting until the last days of the voyage, if the surgeon would perform the operation as soon after leaving port as practicable. This would give him an opportunity of noting the value of the virus and result of his work, besides facilitating the labor of inspection upon and after arrival. I think that a circular letter from the Board, making this request of the managers of the various steamship lines, would meet with a favorable reception.

The disparity in the results of vaccination performed on shipboard is due, possibly, as much to the method of performing the operation as to the character of the virus employed, though there is, doubtless, much of this used which has become inert, either from being kept too long or from exposure to the salt, moist atmosphere. Both of these evils would be more likely to be remedied if the surgeon was able to follow up the results of his work.

As all doubtful cases in this District, that is, those in which the evidence of proper vaccinal protection is not clear and unmistakable, are carefully vaccinated with virus seldom more than seventy-two hours from the heifer, it is probable that those passing through our hands are more thoroughly protected than many of our citizens.

Recent action in England, detailed in the following, will tend to still further lighten the responsibility of this Service:

Dr. Bloxall, R. N., one of the medical inspectors of the local Government Board, accompanied by Capt. Wilson, representing the Board of Trade, has opened at Liverpool an inquiry with regard to certain sanitary questions connected with emigration, and as to the circumstances in which emigrants passing through the port of Liverpool are placed before sailing. He is likewise instructed to inquire as to the provision made for the isolation and treatment of sick persons arriving from infected places on the Continent or in the United Kingdoms; and, further, as to the sanitary arrangements and supervision of the lodging-houses into which emigrants are received, and the means taken with respect to infectious diseases occurring therein.

In a few instances the cars have been found wet and dirty, especially those transferred from connecting lines; but, as a rule, their sanitary condition is quite satisfactory.

Cholera infantum among children, and diarrhœa among adults were quite frequently met with in the early part of the month. One child died *en route* of the former disease. Measles and chicken-pox have appeared often enough to keep the inspectors on the alert and to demand the exercise of discretion and prudence in dealing with their subjects.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending October 7, 1882, indicate that erysipelas has increased, and that cholera infantum, cholera morbus, bronchitis, and influenza have decreased in area of prevalence.

Compared with the average of reports for the months of October in the preceding five years, all diseases except puerperal fever, were less widely prevalent during the week ending October 7, 1882, than usual.

Including reports by regular observers, and by others, diphtheria was reported present during the week ending October 7, and since, at 20 places, scarlet fever at 11 places, and measles at one place. One case of smallpox was reported at Grand Rapids, October 9.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 9 TO OCTOBER 16, 1882.

GRAY, W. W., *First Lieutenant and Assistant Surgeon.*—To be relieved from duty in Department of the Columbia, and to report in person to Commanding General, Department of the South, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

BARNETT, RICHARDS, *Captain and Assistant Surgeon.*—Relieved from duty in Department of the Platte, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

CRAMPTON, LOUIS W., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

BRECHEMIN, LOUIS, *Assistant Surgeon.*—Relieved from duty in Department of Dakota, and to report in person to Commanding General, Department of the East, for assignment.—*S. O. 237, A. G. O., October* 11, 1882.

WAKEMAN, W. J., *Assistant Surgeon.*—Upon being relieved at Fort Douglas, Utah Territory, to proceed to Fort Fred Steele, Wyoming Territory, and report for duty.—*S. O. 106, Department of the Platte, Oct.* 6, 1882.

KANE, JOHN J., *Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for extension of three months.—*S. O. 202, Department of the Missouri, October* 9, 1882.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*